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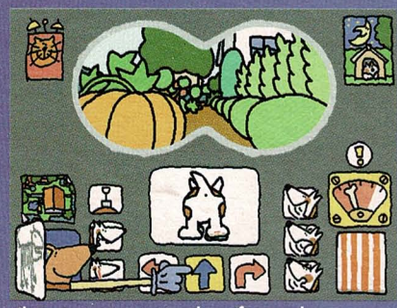

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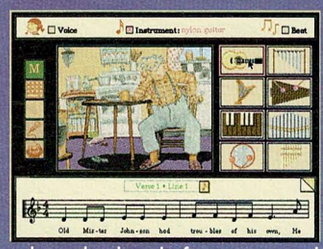

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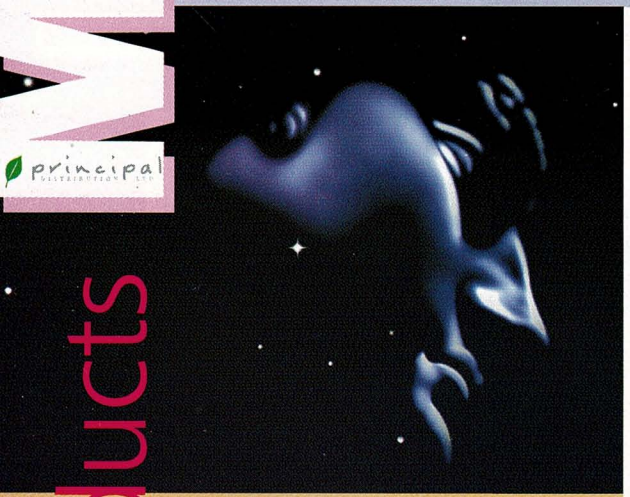

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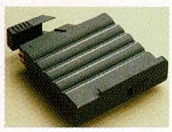

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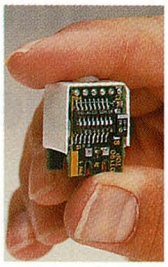

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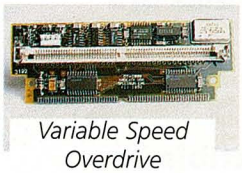

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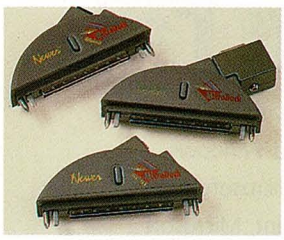

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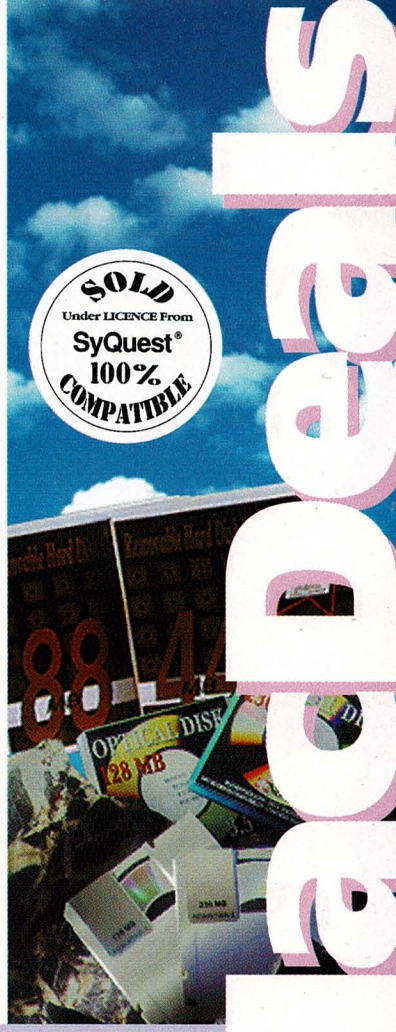

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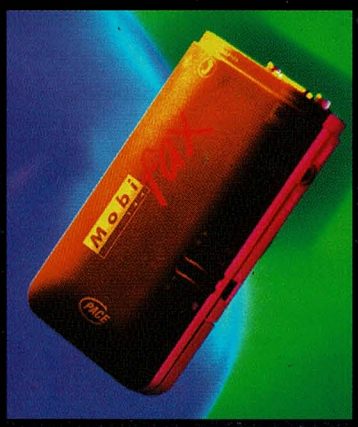

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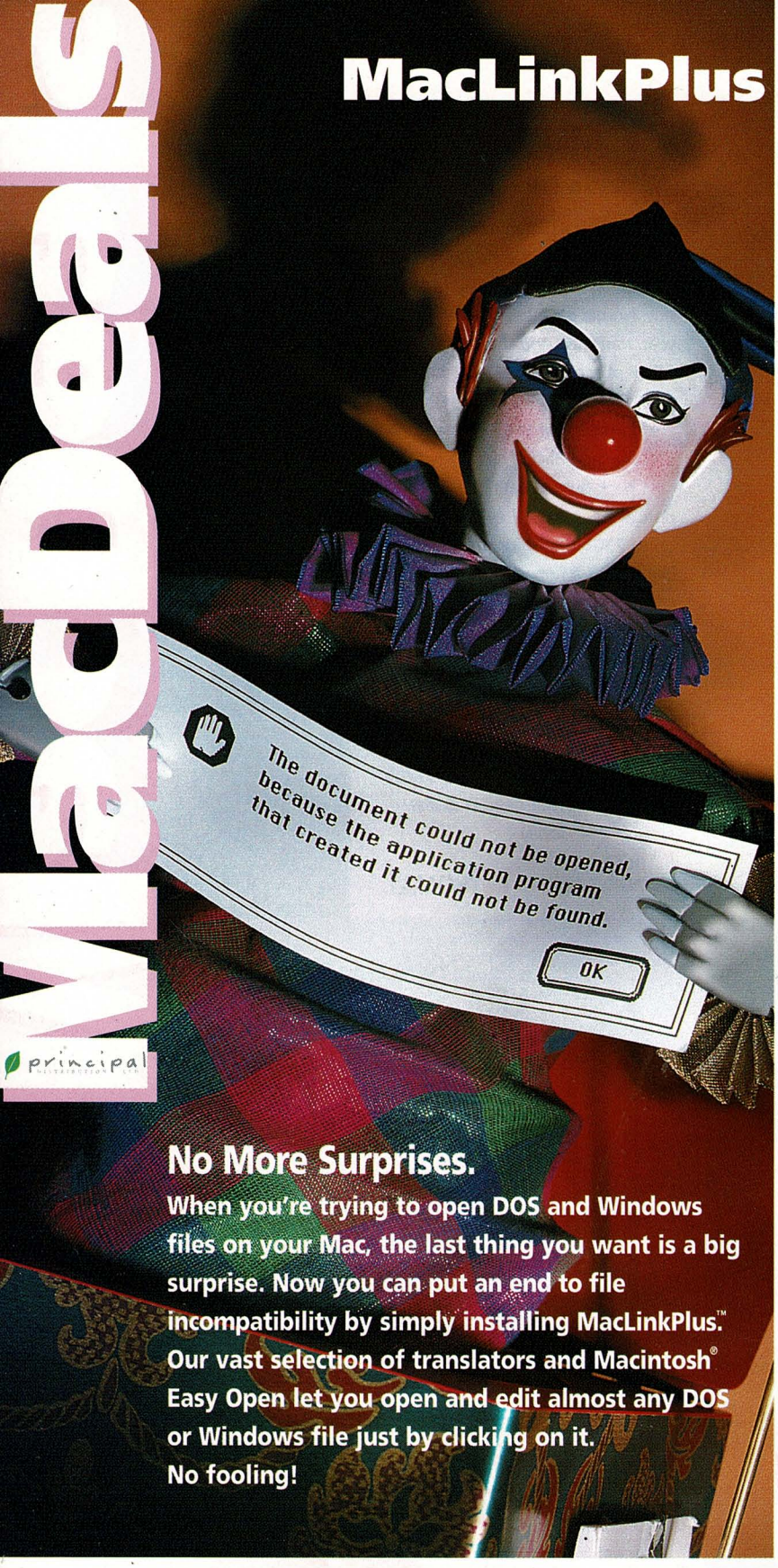

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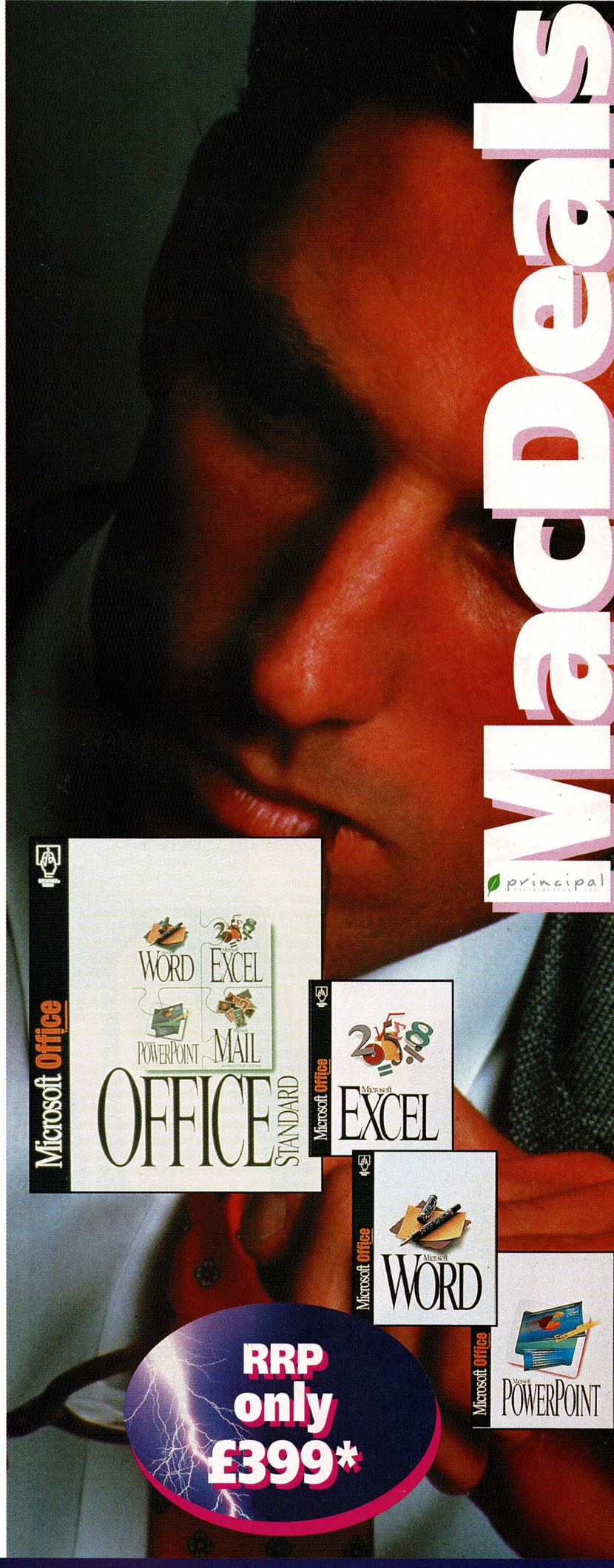

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And, in addition to English documents, TextBridge enables you to scan most European languages, including French, Italian and German. TextBridge will also recognise all your characters.

At £99*, TextBridge is a quarter of the price of some other OCR packages. Call your local dealer now for further details.

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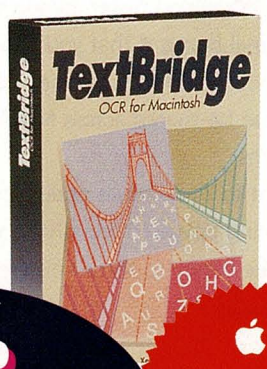

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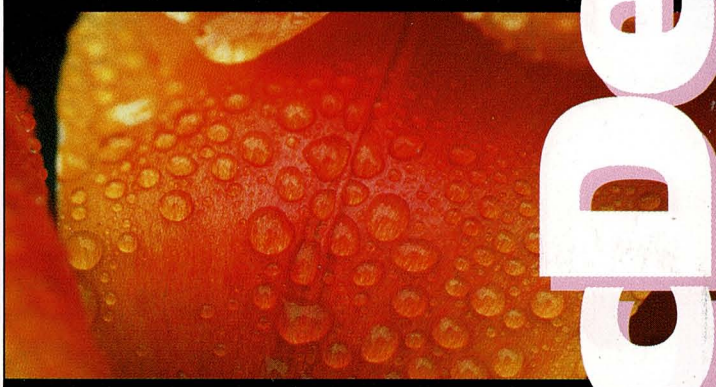

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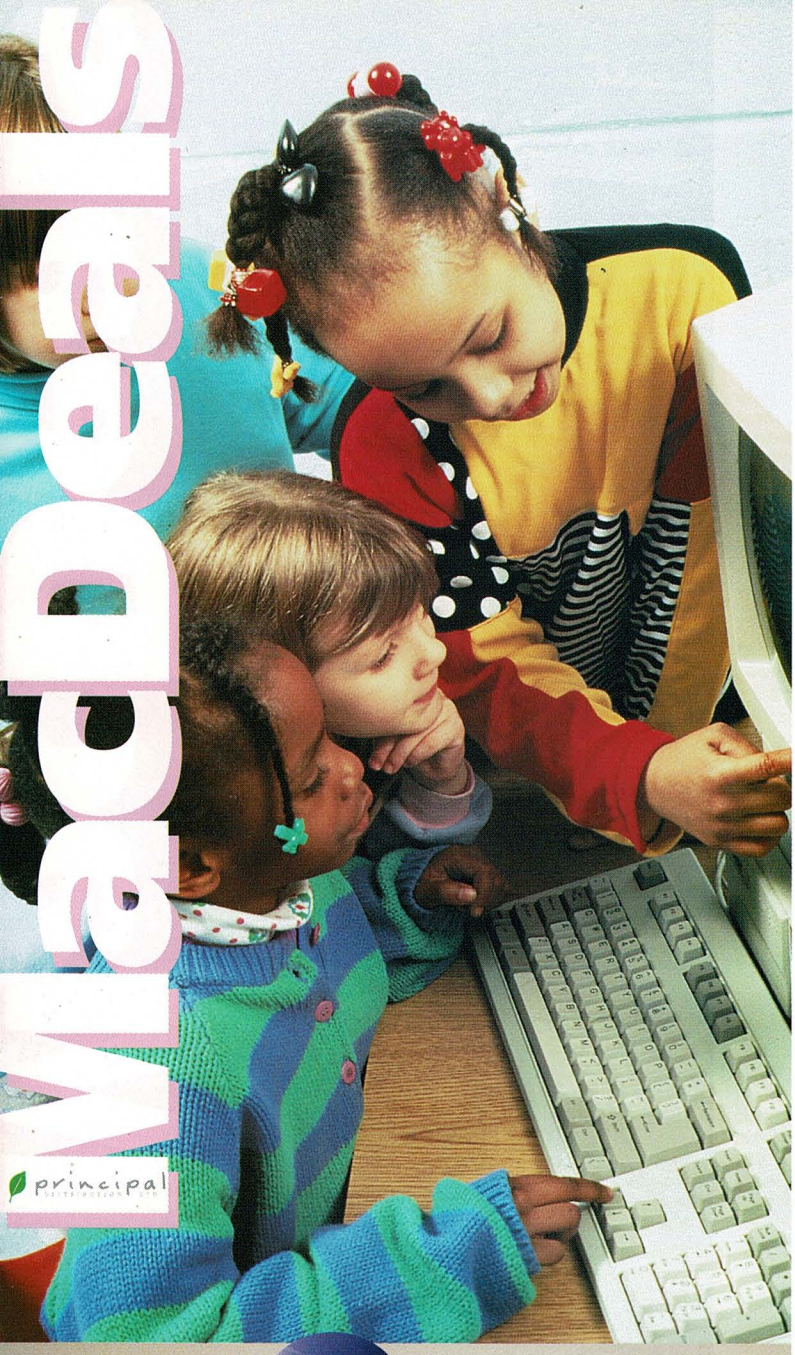

The Next Generation Demands High Impact Colour.

Here's a printer that certainly won't look old before its time – the HP DeskJet 1600CM.

This next-generation office workhorse is a fast, networkable inkjet printer featuring intuitive ColorSmart technology, which lets you integrate colour into everyday business documents.

Power & Glory.

The 6Mb HP DeskJet 1600CM is powered by an Intel 32-bit RISC processor. This spins out 600 dpi black printing at up to 8ppm, or fast full page colour at up to 2ppm. It'll cope with A4 paper, film and labels, and there's an optional 500-sheet paper tray which avoids frequent refills.

Faces & Fonts.

It comes with 45 scalable typefaces and an extra range of PostScript fonts as standard. They fit easily onto your existing network using standard JetDirect servers.

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Prevention and Cure.

Norton Utilities. Emergency Surgery for Macs.

If you've ever experienced a disk crash, inadvertently erased important files or even ditched a whole disk by mistake, you'll have felt very sick indeed. Sicker still when you've had to explain the problem to your colleagues and customers.

Now Norton Utilities can put both you and your Mac firmly on the road to recovery. When all else fails, new Norton Utilities 3.1 will deliver lost data. What's more it's also accelerated for the Power Macintosh.

In fact, Norton Utilities 3.1 is the most complete repair and recovery software available. For a speedier recovery, call your local dealer now.

Norton Administrator For Networks 1.5 Can Manage.

How do you know if network users are violating your copyright agreements? How will you know exactly what software is running on the network, and whether it's running on DOS, Windows, Macintosh, UNIX or OS/2?

How can you do all this on a network that runs different platforms, and know how often different software is being used? ***Easily***. Just install Norton Administrator for Networks 1.5.

Vaccinate against disaster with SAM.

Sam is the most comprehensive anti-virus package available and even has a system of automatically updating itself from Symantec's bulletin board. Whenever a new virus is discovered, SAM will keep you prepared.

Scanning for viruses is also automatic, and continuous. Even compressed files are investigated for the presence of viruses. For the best protection available, call your nearest dealer.

SAM Administrator 4.0 protects your network.

With SAM Administrator, there's no need to make multiple installations on your network. It also allows remote configuration of all SAM parameters.

Meanwhile, a distribution log tracks the progress of all SAM distributions and you are quickly informed of any updating problems. So your network will never be caught napping. For network-wide virus protection, call your dealer and ask about SAM Administrator 4.0.

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Kai's Power Tools includes 33 plug-in modules to enhance the creative potential of Adobe Photoshop. Design and produce stunning gradients, beautiful marbles, woods and skies, then preview them in real time. Power Tools carries the concept of the graphical user interface to a new plane, guaranteed to let your creativity run wild!

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Real time filter effects?

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All these great KPT products are available from your nearest participating dealer listed below. From only £129 each, they represent excellent value. Order yours today!

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Convolver RRP only £129*

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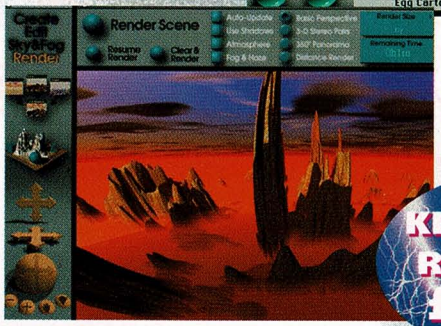

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Pour This Winning Combination Into Your Mac And Watch It Fly!

This superb package is a designer's dream! Principal are delighted to be able to offer, through our participating dealers, the **RasterOps ClearVueColor 20T monitor**, paired with the **24-bit Prism GT card** *and* a FREE copy of **Fractal Painter 3.0**, all for only **£2,495!**

ClearVueColor 20T delivers **large-screen Trinitron excellence** with colours that have unmatched vibrancy. The monitor supports resolutions up to 1280 x 1024 dpi, letting you see an entire 2-page layout on screen with ease.

Prism GT boosts the **capabilities and speed** of a **PowerMac 6100 or 7100** to beyond the performance of an **8100!** Perfect for 24-bit pre-press and graphics applications, this card comes with 3Mb of V-RAM for quick display of large images.

As the **preferred choice for designers,** illustrators and those working in high-end graphics, **Fractal Painter** provides a superb line-up of painting and drawing tools. Realistic brushes actually simulate loading a brush with multiple colours of paint! It'll help you create frame-by-frame animation for multimedia or video, and much, much more!

Give your graphics system a new lease of life. The Principal RasterOps bundle with Fractal Painter brings together three great products that'll revolutionise the way you work. And all for only £2,495! Call one of the dealers listed below to find out more.

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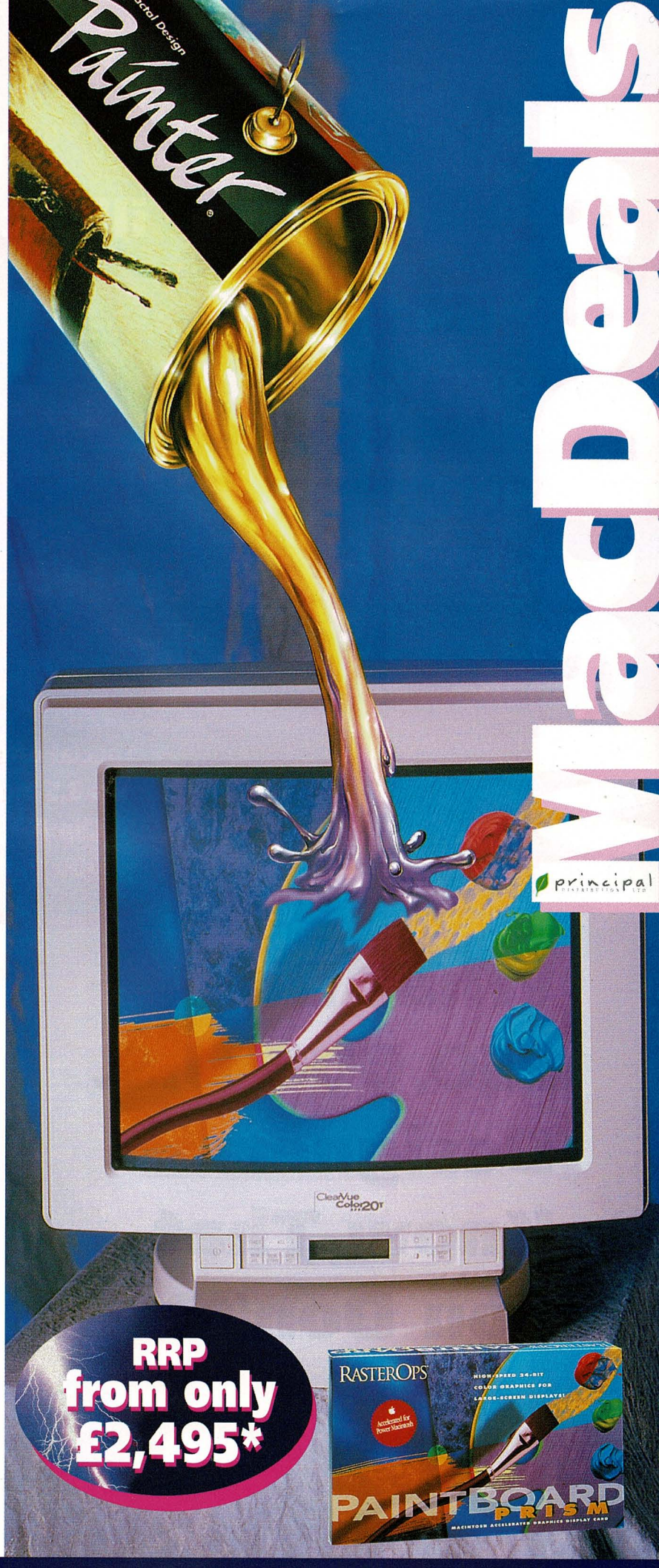

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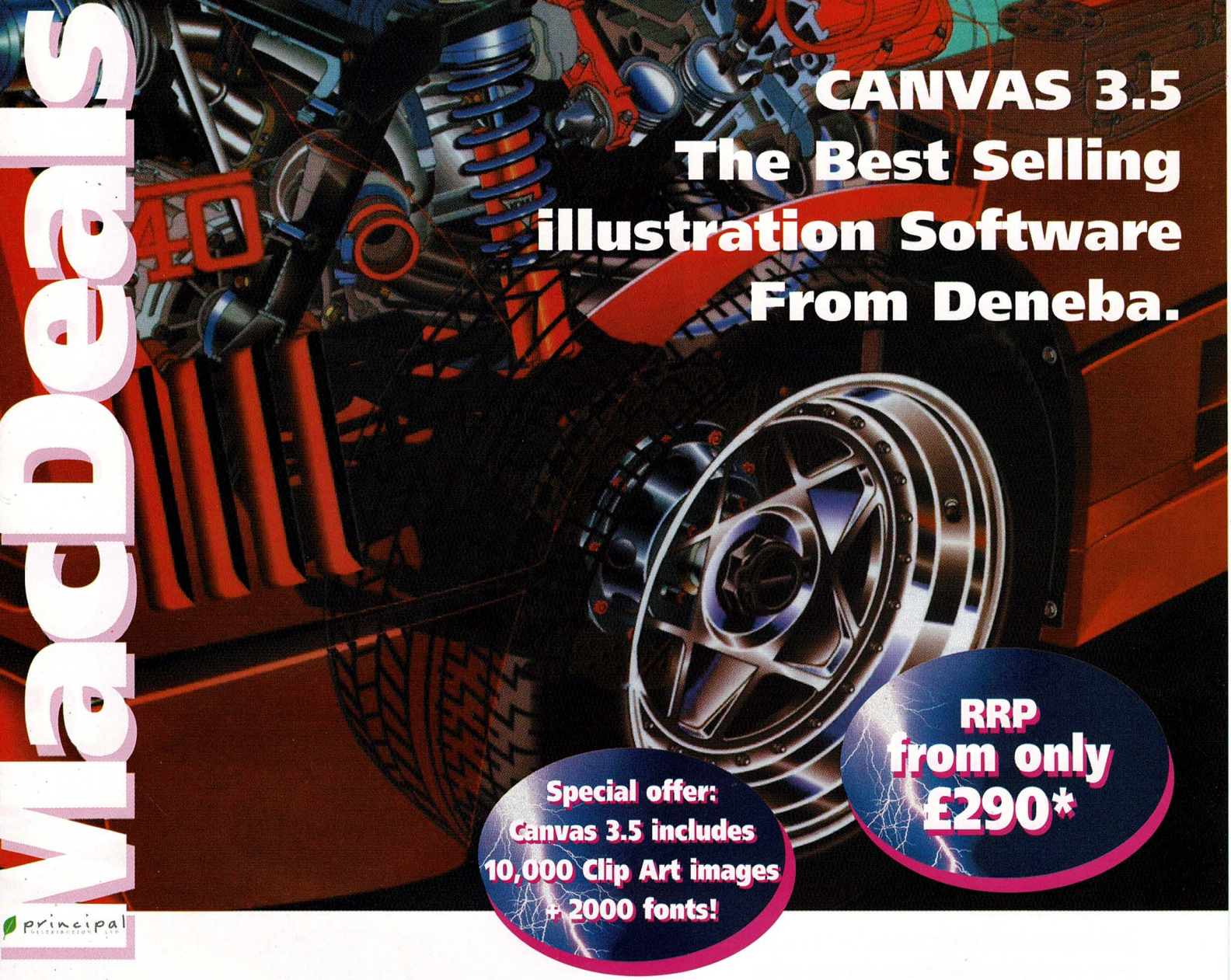

What Do 250,000 U.S. Designers Know That You Don't?

Accelerated for Power Macintosh

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Powerful drawing, supercharged rendering, super-fast 3D effects. And that's just for starters! Canvas 3.5 from Deneba is a complete integrated work environment that combines 2D rendering, 3D effects, page layout and DTP.

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But this super program doesn't have a supercar price-tag. Just £290, in fact.

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OmniPage Professional 5.0 can be yours for £530.

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Reno. The Fastest, Most Versatile Portable CD-ROM

Awarded PC PRO speed award. Performance 5 out of 5. April 95

Reno shown here with detatched docking station which provides the SCSI interface

Introducing Reno With 180ms access time, Reno is one of the fastest double-speed CD-ROM players available. This awesome little drive allows you to run demanding games, educational titles or business applications with ease. Reno is also Kodak PhotoCD multi-session ready, with the appropriate software you can view or edit your own Photo CDs.

Convenient Versatility Reno's SCSI2 interface is industry standard for both PC and Macintosh. If you're on the move, connect Reno to your portable and take it with you. Its sleek compact design lets you use it anywhere and, with either AA batteries or AC power, anytime.

Not just another CD ROM Reno isn't just another CD-ROM drive, it's a CD-ROM player. Listen to your audio CDs through your computer with FWB CDT Remote or Pocket CD. Or take it on the road with you. Its external controls allow you to use it as a portable audio CD player. Disconnect it from its small docking station and play your tunes wherever you go. Headphones and soft carry case *included*. ESP £269

Tech Specs

- Access time 180ms
- Data Transfer rate 306KB/sec
- Memory buffer 64KB
- Interface SCSI2
- Audio oversampling 4x
- PhotoCD multisession compatible
- Weight 1.2lbs without batteries
- AC Adaptor: 13.5v, 1.5a, 50Hz

Mac Requirements

- Mac SE or higher
- System version 7.0 or higher
- At least 4MB of RAM
- 500k free Hard Disc space

PC Requirements

- IBM or compatible computer, 386SX or greater
- MS DOS 5 or greater
- Windows 3.1
- VGA graphics adaptor
- 1MB of free Hard Disc space
- Minimum 2MB RAM
- Microsoft or compatible mouse
- SCSI card and cable

FOR

Desktop Mac	PowerBook	Desktop PC	Portable PC
All cables included	Requires a PowerBook SCSI to 25pin converter	Requires a SCSI controller card and cable	Requires a PCMCIA or Parallel to SCSI interface

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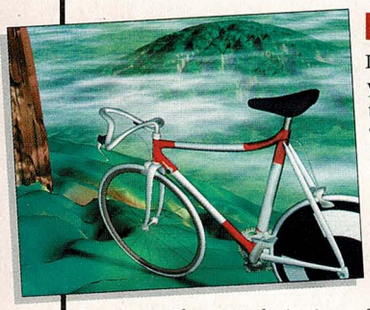
MACFORMAT

ISSUE 25 ■ JUNE 1995

The Finder

HOW TO...



Render 3D images 54

If you've been following our 3D series, you know all about 3D modelling, textures, scene-building and lighting. The final touch is rendering, or actually 'drawing' the image. It's not much harder than taking a photo – here's how to do it, in a range of 3D programs!

Use type in DTP 60

If you're designing a full-colour poster or a humble newsletter on your Mac, you have a vast choice of fonts and typographic effects. So what matters: whether you can read it, or whether it looks good?

Write a personal organiser in HyperCard 67

Actually, we've done it for you, and it's yours on the cover disk. But here are all the secrets of how it works, plus details of a CD-ROM that offers over 300Mb of stacks! A bargain or what?

Mac Answers 71

Our team of experts solves your Mac problems. This month, upgrading a Performa 450's memory, bugs in the 660AV, BBSs and much more...

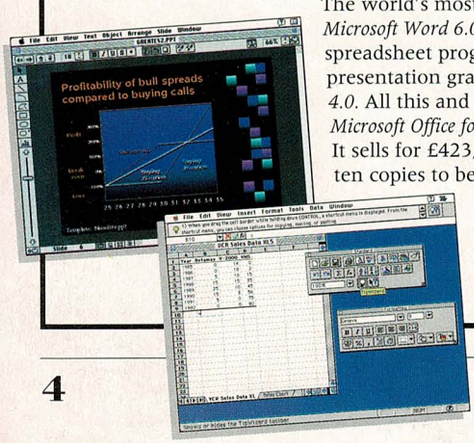
Basics: Screenshots 76

Every Mac enables you to capture screens to incorporate into documents or even save graphics that can't usually be saved. Here's how – there's a utility on the cover disk too!

WIN WIN WIN WIN

Ten copies of Microsoft Office 4.2 to be won – over £4,000 worth of prizes 138

The world's most popular word processor, *Microsoft Word 6.0*. The only dedicated Mac spreadsheet program, *Excel 5.0*. The top presentation graphics program, *PowerPoint 4.0*. All this and more is included in the *Microsoft Office for the Macintosh 4.2* bundle. It sells for £423, and we have no less than ten copies to be won, thanks to Microsoft!



REGULARS

Welcome to MACFORMAT 6

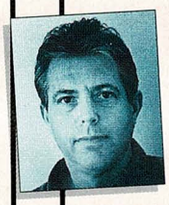
Everything you ever wanted to know about us...

News 19

New, affordable 'Power Performas'. The first non-Apple Mac clone. Plus a special report on the hot new leisure software previewed at Europe's leading computer trade show...

What's New 26

MACFORMAT's product preview section takes a first look at a CD-ROM drive you can use like a personal stereo, a catalogue system complete with a scanner, a virtual noticeboard, and other new goodies!



MacroScope: Behind the News 28

How the Mac is shaping up to be the perfect machine for preparing pages for the Internet, plus how veteran illustrator Richard Stine couldn't work without his Macintosh...

Apple Talk: Letters 34

Your views on everything in the Mac universe, including the price of shareware, salacious CD-ROMs, the service in Dixons, why the Pippin is doomed, and what the adverts really mean.

Back Issues 108

How to catch up on all the reviews and features you've missed!

Mail Order Offers 113

We scoured the world for top Mac products at the best prices – we've even got a very special deal on Apple's double-speed CD-ROM drive.

Gamebusters 123

Tips and cheats for your favourite games. This month, the beginning of a complete guide through *Monkey Island*, plus *SimCity 2000, v1.1*.

Free Reader Ads 128

Buy, sell or swap, and find a user group near you.

Soapbox: 'a final word on Wolfenstein' 130

Grotesquely violent? Tasteless? Four readers give their views.

Buying Advice 132

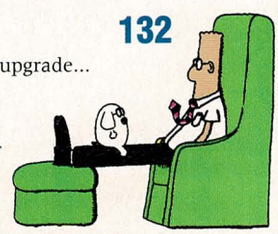
How to protect your rights, whether buying by mail or in person.

Dilbert 132

How to find the true facts about the latest upgrade...

Next Month 137

Details of what's coming up in MACFORMAT next month. If we get our act together...



REVIEWS

KPT Convolver 90

It's a Plug-In made by the people who brought you *Kai's Power Tools*. It doesn't exactly add any functions, but it adds a new front-end to your Plug-In-compliant graphics program, making it nice to look at and fun to use. Trivial? So why did our *Photoshop* expert refuse to give it back?

Multimedia goes cosmic!

Multimedia doesn't just mean CD-ROMs that stretch the boundaries of what your Mac can do. It also means titles that stretch your mind, including...

- Cartoon History of the Universe 93
- A Brief History of Time 94
- Time-Life Astrology 95
- Universe 4.0 96

Multimedia for kids

How would you like to turn your kids loose in a virtual world they can get lost in? That's what these new CD-ROM titles all offer...

- 3D Dinosaur Adventure 101
- Zoo-Opolis! 102
- The Ultimate Haunted House 103
- Dazzleoids 104

Education software reviews 106

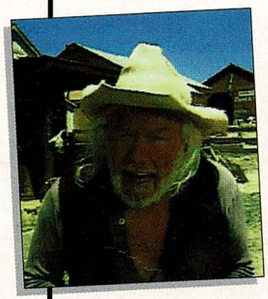
Discover a ground-breaking new CD-ROM title from ActionAid, the first charity to publish a CD specifically for educational purposes. Plus the new version of a shape- and sound-pattern matching program.

Shareware Heaven 109

The latest low-cost and no-cost software from the Internet, including an improved jigsaw game, utilities for mounting CDs, backing up your data and cleaning up your windows... even a Speccie emulator!

Games Reviews

Battle the evil feline forces of the Kilrathi empire, drive a train through a nuclear winter, and get killed a lot...



- Super Wing Commander 116
- Robinson's Requiem 118
- Transarctica 120
- Mad Dog McCree 122

Utilities: Zonkers 124

5,000 ways to brighten up your Desktop, alter buttons, customise menus, and much more.

Utilities: Toner Tuner 126

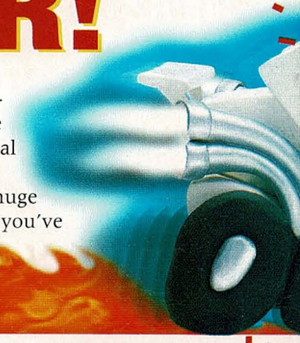
You know how quickly your laser printer gets through a new toner cartridge. Here's how to save toner with a clever draft printing utility.

Utilities: Working Watermarker 126

Customise your correspondence with a watermark – 'confidential' or 'draft' or whatever – even if you have a basic word processor.

FEATURES

MAX POWER!



PowerMacs are the fastest, most powerful desktop computers ever made. And with the release of the newest 'Power Performas' this month, real PowerMac power is not just the future – it's becoming more affordable all the time. In this huge 12-page special feature, we tell you everything you've ever wanted to know about PowerMacs!

The secrets of Power Macintosh 40

Just how good are they anyway, and why?

The PowerMac range – in full! 43

Full details of every PowerMac, including the new 'Power Performas'

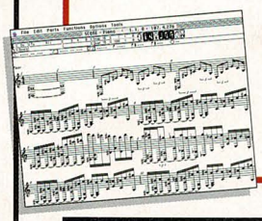
How to upgrade your old Mac to PowerMac 48

You could transform your Mac into a PowerMac for as little as £550!

The future of Power 51

Beyond today's PowerMacs: even more powerful, revolutionary Macs!

Fax-modems and fax software 78

With a fax-modem, you can not only connect to on-line services or the Internet, you can also send faxes more quickly and easily – no need to print our first! – as well as receive faxes directly on your Mac. We test ten of the best Mac fax-modems, plus the top fax software!

MIDI music on your Mac 63

This month's cover disk contains the programs you need to play MIDI music files on your Mac, with no extra music kit needed! Here's how it all works.

COVER DISKS

MACFORMAT is available every month with either a CD-ROM or a high density disk.

Your CD-ROM 8

Fantastic demos including *Alone in the Dark, Super Wing Commander, A-10 Attack* and others reviewed this issue, amazing 3D images from Ray Dream, 200Mb of shareware, and more, plus everything below...

Your Cover Disks 12

Programs to play MIDI music through your Mac, a breathtaking 'knot' creator, absorbing games plus great utilities including a top screen-grabber, macro writer and poetry-generator!

Free CompuServe access (UK only): see page 10

Welcome to MACFORMAT

All you ever wanted to know about MACFORMAT – and a glimpse behind the scenes. Information is the name of the game!

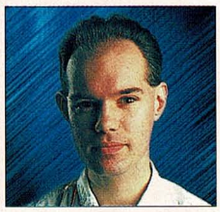
ABOUT OUR WRITERS

ALEX SUMMERSBY

Alex's first Mac was an SE/30, and he swears it could run *QuarkXPress* faster than his present Mac. Mind you, now that he's editor of MACFORMAT he's really reached the dizzy heights and now uses a IIsi. Thank God for *RAM Doubler*.

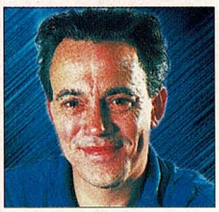
DEREK SMITH

MACFORMAT's Technical Writer used to run a room full of Macs, back when he was the computer boffin for a school in Norfolk. Now he's got just one Centris 610, plus a few extra hard drives and things. Plus a Classic, just in case.



RICHARD HILL

Rich is MACFORMAT's multimedia man, so he had to have a Performa 630 with CD-ROM drive. And he's our news editor, so he had to have a TV tuner card in it to help him keep in touch with the news. And *NYPD Blue*, apparently.



ANDY STORER

Andy has been a computer journalist so long that his first Mac was in fact a Lisa. He now has a year-old Performa 475, and he never tires of telling everyone how fast it's depreciated with all these great new models coming out.

MARCUS DYSON

Back when Marcus was one of Future Publishing's senior art editors, the Quadra 700 was the most powerful Mac there was. Marcus now works as a graphic designer for a top software house, and just smiles when we remind him.

ROD LAWTON

As computer books editor in Future's books division, Rod has to produce multiple-hundred-page books, complete with embedded graphics, using *QuarkXPress*. He's got a IIsi. No wonder he prefers tinkering around in *HyperCard*.

BRIAN LARKMAN

MACFORMAT's graphics tutorial expert, Brian teaches computer graphics at a college using high-end Macs. His own Centris was stolen recently, so he had to buy a brand new PowerMac 7100 with the insurance money. Poor guy.

ABOUT MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Mac magazine! Whether you're a veteran or a novice, we'll help you get more out of your Macintosh, whatever you use it for!

Every month, MACFORMAT brings you *tips*, techniques and tutorials covering the range of Mac applications, from graphics, DTP, education, spreadsheets and databases to music, comms and games.

We'll bring you *features* about exciting Mac developments and novel uses, accompanied by cover disk programs whenever possible, so you can discover what your machine can do and try things you haven't tried before.

We'll keep you up-to-date with all the Mac-related *news*, and also keep you informed about the wider issues, the people behind the headlines and the stories behind the stories.

We'll bring you authoritative *reviews* of interesting and affordable products, with clear buying recommendations. MACFORMAT does not review demos or unfinished programs. We review only the finished products you could buy yourself, to help you decide whether to buy or not.

MACFORMAT's covermounted *disks and CD-ROMs* offer you demos so you can try software before you buy, useful utilities (specially chosen to complement features in the magazine), selected shareware programs, games, readers' contributions and more, every month.

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Fax 01458 274378 (24 hours)
E-mail: subs@futurenet.co.uk

A word about prices...
We try to ensure that all prices quoted in editorial pages in MACFORMAT are accurate at the time of going to press, and they are all *inclusive* of UK Value Added Tax at 17.5%. However, this may not necessarily be the case with prices appearing in advertisements, so we recommend that you always contact advertisers before ordering to confirm prices and availability. See page 132 for some helpful buying advice.

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ABOUT OUR REVIEWS

Every MACFORMAT review is designed to inform you in detail what you'd be getting if you bought the product and help you decide whether it's worth your money. It tells you the essentials, without jargon.

MACFORMAT reviews only finished products, and we rate them on this scale:

- 80+% means excellent.
- 70+% means well worthwhile, though not outstanding.
- 60+% means good, but with a few shortcomings or some limitations.
- 50+% means acceptable but flawed.
- A rating below 50% means think carefully before parting with your money.

The MACFORMAT Classic Award

If a product earns a rating of 90% or more, we'll give it a MACFORMAT Classic Award. This means what it says: we judge the product to be a classic, a standard-setter of its type, something really special.

- We make every effort to verify all the information we publish, but products and prices do change. We quote list prices, but street prices do vary. Shop around, and check with the supplier before buying to make sure that the product you're considering will meet your needs. MACFORMAT cannot accept responsibility for any errors or omissions or for any losses that may arise as a result, but it is our policy to correct any errors of fact whenever we possibly can.
- MACFORMAT welcomes contributions for publication but we regret that we cannot return any submissions. Contributions are normally accepted only on the basis of full assignment of copyright to Future Publishing Ltd. Any correspondence sent to our editorial address will be considered for publication unless you specifically state otherwise, and we reserve the right to edit published letters for reasons of space, clarity or legality.
- We're invariably run off our feet, so we can't reply to letters personally, even if you include an SAE, or to faxes or e-mail. Nor can we answer technical queries over the phone – sorry!

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The disk pages may have a new look, but the CD-ROM is its usual excellent self, and here with details of all the treats is Derek Smith.

There is a distinctly arty feeling to the CD-ROM this month. We have some quite stunning images created with *Ray Dream Designer*, showing just what is achievable on the Mac. This coincides with the readers' art gallery taking off, and there are many great images, including a whole collection from Mark Woods. Let's take a closer look at what all those folders are for.

- **Floppy:** contains everything that is on the floppy disk, as well as a few extras.
- **MIDI:** everything you need to play high quality music on your Mac, without any extra equipment needed. For more details see page 63.
- **Demos:** a whole collection of interactive demos of software reviewed this month, plus much more.
- **CompuServe Install:** all the software you need to log on to one of the best comms services around. See page 10 for more details.
- **Shareware City:** all the best shareware that has been released over the past month onto the Internet.
- **Shareware in MACFORMAT:** contains all the shareware that's been reviewed this month in 'Shareware and PD', which starts on page 110.
- **Readers' Corner:** software and art sent in by you, the reader.
- **MF CD-ROM Library:** demo database of our cover CD-ROMs sent in by an exceptionally diligent reader.
- **CDIconKiller 1.3.1:** utility to make access to the MACFORMAT CD-ROM faster than ever before!

FLOPPY OR CD?

MACFORMAT is available in two editions every month: one with a CD-ROM and one with a high-density floppy disk. If you bought the CD-ROM edition, your CD includes a folder containing everything on the HD disk, details of which are on page 12.

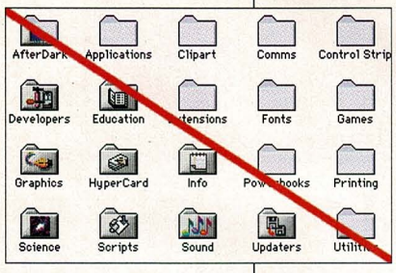
CDIconKiller 1.3.1

Utility

Requires: any Mac

One criticism of our CD has been the use of custom folder icons. We like to think that it gives the CD more character, but it does mean that windows take longer to open. Reluctant to return to plain blue folders, we found this wonderful utility. Install it in your System Folder and it suppresses custom icons on any CD-ROM, making windows open faster. (Just drag it over your closed System Folder and your Mac does the rest – all you have to do is click **OK** when prompted, then restart your Mac.) So now it's up to you whether to install this utility and do without the custom icons, or enjoy the MACFORMAT CD as nature intended.

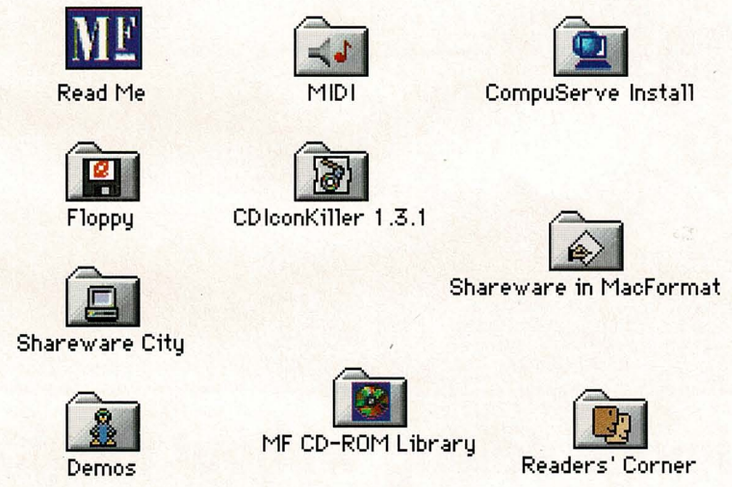
If your favourite colour is a bland blue/grey, this program is a must. Politicians, listen up.



MacFormat 25

613.2 MB in disk

Over 5,000 files of Demos, Shareware, Graphics, Utilities and much, much more.



Ray Dream Images

3D Graphics

Requires: colour monitor, graphics application

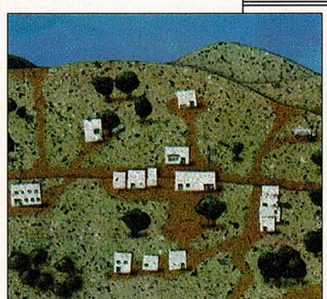
Continuing our season of 3D software, this month we bring you ten images created with one of the best rendering programs around, *Ray Dream Designer*. Most of the images are rendered at very high resolution in millions of colours, so you may need to allocate more memory to your graphics program to open them. (To do this, simply highlight the program's icon and select **Get Info** from the **File** menu or hit **[command] I**, then type a new number in the 'Preferred Size' box.)

Sample the world of high quality rendered images courtesy of *Ray Dream Designer*.

Discover India

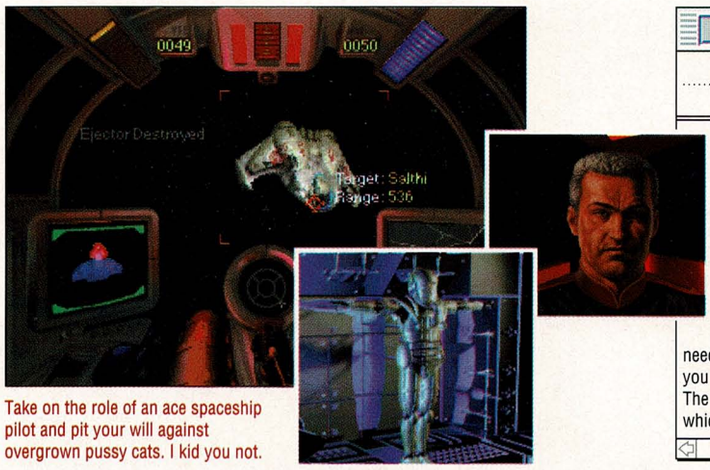
Multimedia video

Requires: LCIII, System 7, colour monitor



ActionAid is a worldwide charity with a policy of employing people local to the countries they're helping. It is now getting into multimedia with its first title *Discover India*. This interactive demo gives you limited access to the whole program, and full access to two areas.

Click on the Cities section, then Rural urban contrasts and you get to play a 'match the shapes' game.



Take on the role of an ace spaceship pilot and pit your will against overgrown pussy cats. I kid you not.

Super Wing Commander

Game demo

Requires:LCIII, double speed CD-ROM, 4Mb free RAM

It's taken a while to appear on the Mac, but this fabulous science fiction game is designed to thrill. It's reviewed this issue on page 116. Gameplay involves commanding a space fighter and doing battle against vicious enemies. You can fly at any angle and direction in this three dimensional world, so get ready for some sharp manoeuvres.

To begin the game, double click on the *Super Wing Commander* icon. You'll then need to choose the size of picture you want. Unless you have a very fast Mac, stick to a small screen. The game begins with some excellent animations which you can skip by pressing **[space]**.

Once in the lounge, click on the two patrons for information. Then click on the door in the background to go to the barracks. Click on the far right door to enter the briefing. Once you are finished there, it's into the space ship and on with the game.

Controls:
Numeric keypad – steer ship
W – select missile
[return] – fire missile
[space] – fire laser
C – computer
A – accelerate time

Alone in the Dark

Adventure game demo

Requires: Colour monitor, 3Mb free RAM

Another long awaited arrival on the Mac, *Alone in the Dark* is an adventure game, played as if it were a film. You see your character from a variety of camera positions as he explores the spooky house. There are several introduction sequences to set the mood – you can skip these by pressing **[return]**. Once into the game, guide your character with the numeric keypad, and press **[return]** to bring up a table of actions. The full game is near completion, so watch for a review in MACFORMAT soon.

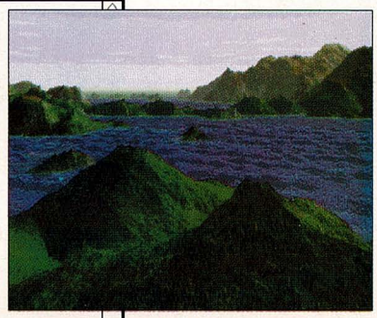
You're not alone in this house, because horror has also been invited along for the evening. (This sentence © Clichés Inc.)

Vistapro 1.2

Landscape Generator demo

Requires: LCII, System 7, 4Mb free RAM

While *KPT Bryce* (reviewed in MACFORMAT 20) may be the king of weird landscapes, *Vistapro* is tops at producing real world images. To use this demo, copy the folder to your hard disk, then double click its icon. Select **Fractal** from the **Window** menu and enter a value of either 1 or –1 (these are the two landscapes you get to play with). Then click on the settings icon (the picture frame just above the eye) and select your settings. Finally, choose **Render** from the **Landscape** menu to create your landscape.



Produce stunning landscapes with the latest version of the excellent *Vistapro*, which is PowerMac native!

Readers' Corner

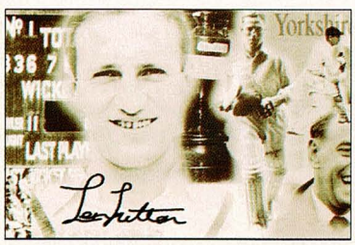
Your contributions

Requires: see individual Read Me files

The response to our call for artwork has been most impressive – the quality has been very high indeed. If you've got some artwork you'd like the world to see, then send it to the address below.

Away from the art, Damon Creed has sent in some more great icons, including an excellent MACFORMAT icon that we're using for the CD-ROM this month. If you would like to create an icon for the CD, send it in and we'll consider it for use.

Garry George and John Wilks have sent in some utilities, and Martin Bergman has sent in a mysterious Sherlock Holmes font! If you'd like to send in any contributions for Readers' Corner, address them to Disc Editor, MACFORMAT, 30 Monmouth Street, Bath, Avon, BA1 2BW.

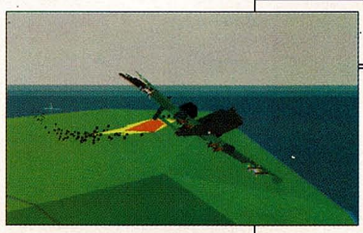


Here's a sample of the wide variety of readers' artwork. This one comes from Mat Griffin.

A-10 Attack!

Flight Simulator demo

Requires: LCIII, System 7, 3Mb free RAM, 256 colours



This game has been talked about, and beta versions demonstrated, for what seems like years. Here at last is the playable demo, so expect a review of the full game in MACFORMAT soon. The demo is fully playable but limited to five minute sessions, if you can stay in the air for that long! Full instructions are in the Read Me file, but to get flying quickly, hold down **[=]** to increase the throttle, pull back on the mouse to take off, then press **G** to lift the gear. There, isn't flying easy?

Great detail! Look closely and you'll see a little man painting the bridge.

GOT A PROBLEM?

If the cover-mounted high density disk or CD-ROM you have is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
Discopy Labs
PO Box 21
Daventry
NN11 5BU

Return CD-ROMs to:
Macformat CD returns
Future Publishing
FREEPOST (BS4900)
Somerton
Somerset
TA11 6BR

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold stocks of them and can only refer you to the addresses above.

VIRUS, WHAT VIRUS?

Some virus checkers regularly say that there may be a problem with a couple of the resources on our CD-ROMs. If you get an alert about an 'unknown strain of WDEF and CDEF', don't worry – it's just that we use an unusual Desktop file so the disc will work with both Systems 6 and 7.

Continued on next page

DREAM ON

Many thanks to Ray Dream Europe for permission to use the racing car image, created by Mitch Anthony, on our CD cover. Other *Ray Dream Designer* images used were created by Jonathan Bant, Mark Siegal and Tony Jones.

HELPLINE

If you have any problems connecting to CompuServe, phone the free helpline on 0800 289458.

COLD COMPRESS

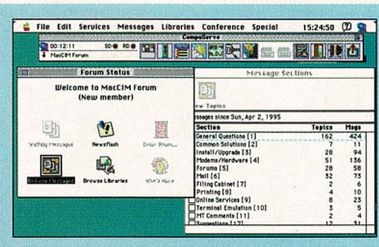
CompuServe does not currently support data compression – 14,400 baud (bits per second) is as fast as you can get.

CompuServe

Welcome to the world of CompuServe! Your CD or your bonus disk (on UK copies of MACFORMAT) contains all the software you need to log on to CompuServe and enjoy one month's free connection, except for the cost of the phone time. Before you go any further, you do need a modem attached to your Mac to make use of CompuServe.

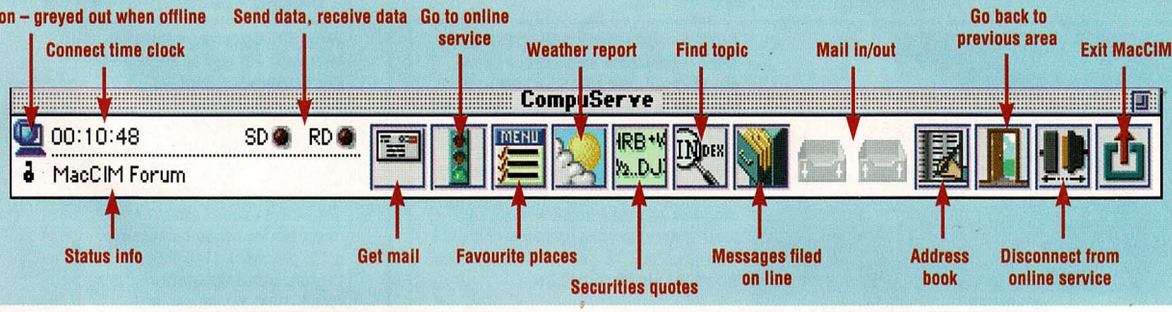
To get started, double click the *Installer* icon to install the software onto your hard disk. Once this has finished, open the new CompuServe folder. The first thing to do is to set up your account. Double click the *Signup* icon and click Sign Me Up. Enter the agreement number and serial number printed on the front of the floppy disk, or included with the CD-ROM as an insert. You'll also need to click on UK as your country. Click Proceed and fill out the next form with your personal details, including a valid credit card number. This is important. At the end of one month's free connection your credit card will start to be charged a monthly fee. If at any time during the first month you wish to cancel your membership, you can phone the freephone number. Alternatively, you can click on the Go to Online Service icon and select Cancel Membership. You will then not be charged.

Continue with the forms and select your nearest city from the list, or select London. Once you have entered all your details, the software will attempt to log on to CompuServe. If it fails, go through the above procedure again, and if still no luck, phone the free helpline.

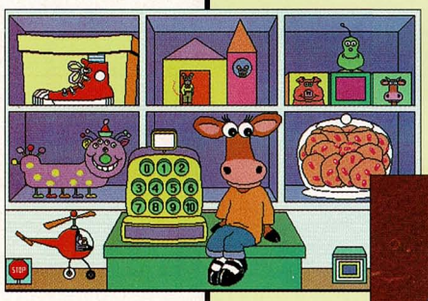


Once you have joined a forum, you will find messages and files. Messages are conversations on the forum topic. Files are usually software or images which you can download on to your Mac.

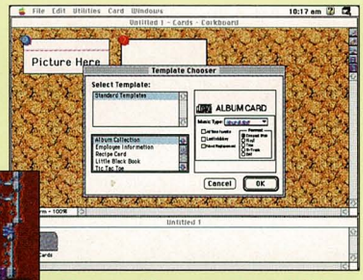
Once connected, you will be given an ID number and password, which you need to write down. You can now quit the Signup program and double click the *CompuServe Information Manager*. It would take too long to explain all the services that are available to you, but a good start can be to turn Balloon Help on, as this will tell you what all the icons do. Whatever you do, have fun. **DAVID NORFOLK**



TOO MANY TO MENTION



Explore *Millie's Math House* in this demo of another top educational title from Iona Software.



Okay, so utilities may not be as thrilling as a good game, but *Three by Five* is well worth a look, and there are more details on page 26.

NetherWorld is a slightly more tactical shoot-em-up game where you have to rescue souls from Hell.

Tubular Worlds is an unashamed shoot-'em-up and you can sample the action in this fully playable demo.

We have a new playable *Blood Bath* demo this month. The game looks very impressive, even on lower end machines, so we look forward to the final product.

Thinkin' Things 2 is reviewed on page 107 and you can try out demos of both editions.

This month has been very good for shareware games, and among many treats is the latest version of *Reamlz*.

DAZZLEOIDS
Somewhere in an average suburban neighborhood called Boredomtown, a young Habitroid named Jeremy has become a brain-washed zombie from watching too much TV.

Dazzleoids is an American edutainment title about mind numbing TV. Amazing that they have got *Bugs* over there so soon. See page 104 for a review.

Continued on page 12

Gomark Design introduces a selection of multimedia production tools.

Step 1: Create stunning 3D logos and animation using LogoMotion. or transform movies using MediaPaint.

Step 2: Edit your media and create special visual effects using VideoShop. Capture screen activity and sounds into QuickTime movies with Instant Replay or Multimedia Utilities.

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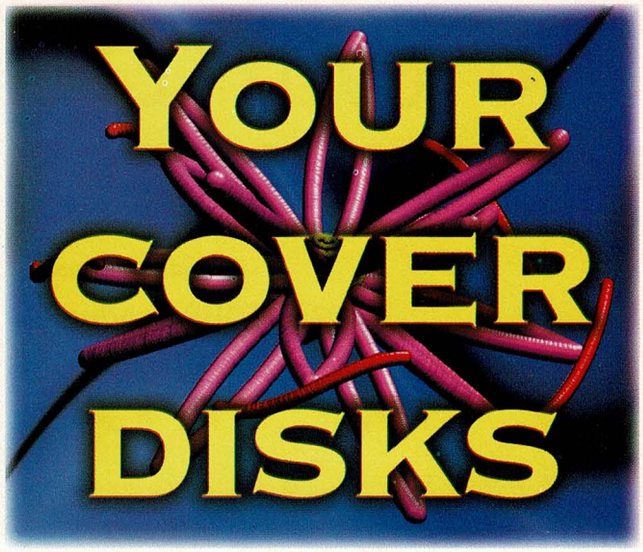


Two disks bring you double pleasure this month, with a huge assortment of goodies. Here to tell you all about it is Derek Smith...

Play MIDI music without extra hardware! – SEE PAGE 63

Our main disk is jam-packed this month with over 3Mb of great software, including no less than four games. The bonus disk is on UK editions of the magazine only, and to find out more about it, turn straight to page 10. To read more about the MIDI files on the floppy, turn straight to page 63. For the rest of the disk, here's a guide to the other highlights...

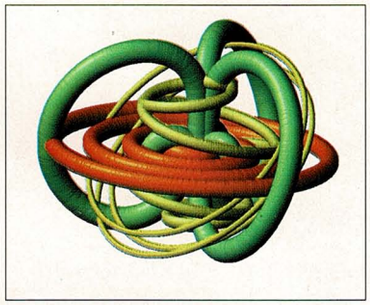
Knot 2.1

Graphics program

Requires: colour monitor, graphics application, 1.5Mb free RAM

This is one of the stranger programs I have found on the Internet recently, but it easily enables you to produce some really stunning graphics. The best starting point is to open one of the example knots by double clicking one. Press **[command] D**, then click on **Draw**. You will be prompted to save the result onto your hard disk.

Knot doesn't actually display the finished result itself, so you'll need to open the file with another program. *GraphicConverter*, on last month's MACFORMAT cover disk, is perfect for the task.



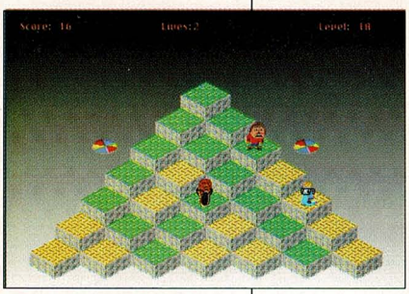
No, it isn't an interactive walkthrough of your intestines, it's a rather unusual graphics program.

Bert

Arcade game

Requires: colour monitor

If you have ever played the original *QBert* game, you'll already know what an addictive game this is. The idea is to leap around the isometric tiles avoiding the many and varied baddies that are after you. Each time you tread on a tile, it changes colour. Change all the tiles in order to advance a level. Unfortunately some of the baddies revert tiles back to their original colour, so you'll need to revisit some areas. Control Bert with the numeric keypad, or assign your own keys.

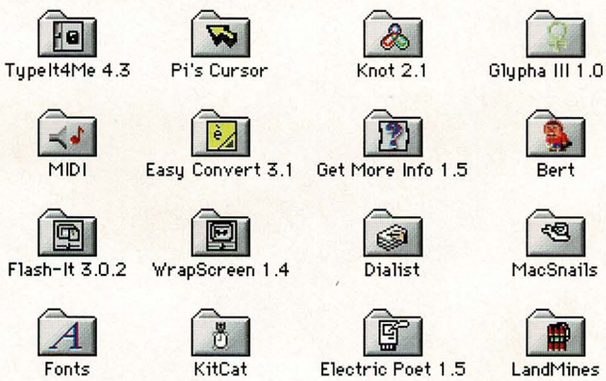


If Bert isn't paranoid then he certainly should be – everybody is out to get him!

MacFormat 25

Over 3Mb in disk

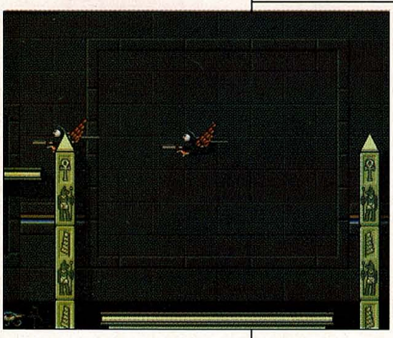
Utilities, music, games, fonts and HyperCard stacks



Glypha III

Arcade game

Requires: System 6.0.5, 14-inch 256 colour



This game is remarkably simple but utterly addictive. Use **[space]** to flap the wings of your steed and the arrow keys to fly left and right. Joust your opponents with your lance higher than theirs to kill them, and then collect the eggs. If you don't, they transform into lethal adversaries.

Flying around poking ostriches and avoiding lava is just fine by me.

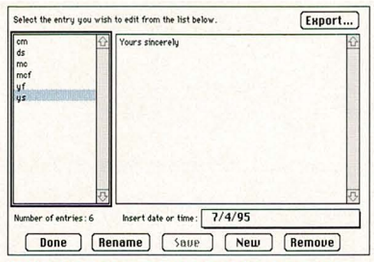
TypeIt4Me

Typing utility

Requires: any Mac

If you do any amount of typing on your Mac, install this utility – it's wonderful. The idea is simple. Instead of typing words or phrases out in full, you can type an abbreviation, and the full thing will just appear, as if by magic.

To install *TypeIt4Me*, drag the Control Panel onto your System Folder and restart. A new menu will appear to the left of the **Apple** menu. Select **New file** and save it on your hard disk. Then select **Edit entries**, and click on **New**. Now type in an abbreviation for the phrase you wish to use, for instance 'pfe'. Click on the large box to the right, and type in the full text, which in this case is 'please find enclosed'. Now, whenever you type 'pfe', the full text will appear!



My life has been revolutionised! I no longer have to type 'Yours sincerely' at the end of every letter – a simple 'ys' will suffice.

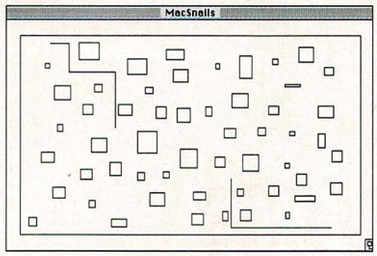
MacSnails

Game

Requires: any Mac

MacSnails is remarkable for two reasons. First, it only takes up a minute 50K of precious hard disk space, and second, it's a totally addictive two player game.

If you have ever seen Disney's *Tron*, then you'll understand the gameplay, as it's taken from the light cycle race. Each player controls a simple black line which relentlessly draws across the screen. Your job is to steer the line around obstacles using the keyboard, and force your opponent into the walls. There are a variety of obstacles and speeds to keep you playing for ages. Because all the graphics are in black and white and the gameplay area is small, this game will work on a Classic!



Not only is *MacSnails* a wonderful two player game, it will work quite happily on a Classic.

Halifax & Mac KeyCaps

Fonts

Requires: any Mac

We are pleased to bring you two more fabulous fonts. They're easy to install: just drag the suitcase onto your System Folder and your Mac will then automatically put them in the correct place. Both fonts are TrueType, which means that they will print out fine on absolutely any printer, whether PostScript or not.

New heights of sophistication can be achieved with this swirly copperplate style font!

Also featuring

Various

Requires: see individual Read Me files

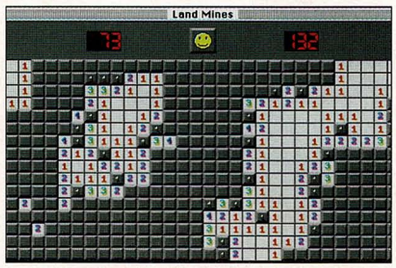
Pi's Cursor is a simple Extension to change the cursor into something more attractive. It does have the added bonus for PowerBook users of making the cursor larger so that it is easier to see. Once you have your new cursor, *WrapScreen* is a Control Panel that makes your cursor wrap from one side of the screen to the other. (So if you move your cursor to the right of the screen until it is out of sight, it will reappear on the left-hand side of the screen.)

Easy Convert, as the name suggests, converts text (easily). Two of the most useful features on the program are the ability to swap lower case and upper case letters, and the ability to encrypt text.

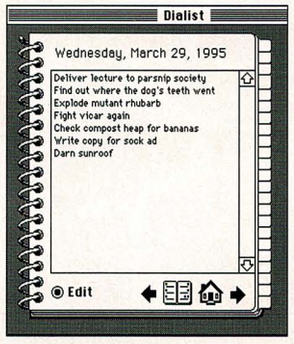
KitCat is an alternative, wacky Desktop clock in the shape of a cat, while *Electric Poet* will compose poetry automatically for you. There are some examples of the program's dubious artistic ability starting on page 109.

LandMines is an adaptation of a classic puzzle game. You're presented with a grid and you have to deduce where the deadly mines are hidden. We decided to put the game on the cover disk because it has more features than any other version we have seen to date – and because, simple though it is, we like it.

Flash-It is a powerful screen capture program, and there are full details about how to use it on page 76. Last but not least is *DiaList*, a *HyperCard* stack that provides you with a useful diary application. Turn to page 67 for more information on *DiaList* and how it's all done.



The floppy disk is bursting with utilities and games to keep you glued to your Mac all month!



Get More Info 1.5

Utility

Requires: any Mac

Install this Extension in your System Folder for a useful extra feature. Hold down **[option]** and select **Get Info** from the **File** menu, and you see much more info than usual! You can see and change the creator and the type of any file – so if you have a document created by an application you don't have, you can open it using an application you do have, simply by changing the document's file type to one that your application can recognise. You can make other alterations too, such as making it invisible – but be careful not to conceal anything that you might want to see again!

Get More Info offers many of the features of utilities such as *FileTyper*, but is much quicker and easier to use.

EXTRA SOFTWARE

If you have the CD-ROM version of MACFORMAT, the MIDI folder appears in the first window. Also, in the CD-ROM's floppy folder, there's a stand-alone version of the *HyperCard* stack – so you don't need to have *HyperCard* installed to use *DiaList*.

START HERE

High density floppy disks normally contain a maximum of 1.4 megabytes of software, but to bring you as much as possible, we use a compression program to fit more on. This means you must decompress the software before using it – you'll need 2-3Mb of hard disk space. We also recommend that you should make a backup of the MACFORMAT cover disk, just in case anything goes wrong. Here's what to do...

- Make sure the original cover disk is write-protected (move the tab so that you can see through the hole).
- Insert the MACFORMAT cover disk.
- Drag the disk's icon over your hard disk's icon.
- The contents are copied onto your hard disk, but are still compressed and cannot be used yet.
- Drag the cover disk icon to the Wastebasket to eject the disk.
- Insert a blank high density disk.
- Drag the MACFORMAT 25 folder from your hard disk onto the blank disk's icon to make your backup.
- To decompress the cover disk, open the MACFORMAT 25 folder on your hard disk.
- Double-click on the MACFORMAT 25 icon.
- Click Continue.
- A box then asks you where you want to save the software. Choose the place on your hard disk where you want everything stored and click Save.

Before installing the cover disk we recommend that you back up any important work on your hard disk. This sensible precaution will avoid problems should any software not be compatible with your setup. We make every effort to check our disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any resulting losses. So please, back up first.

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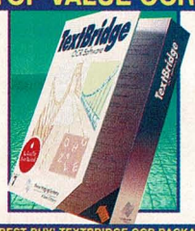

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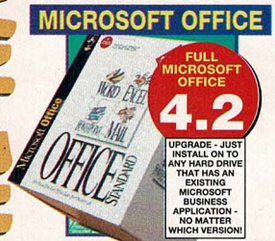

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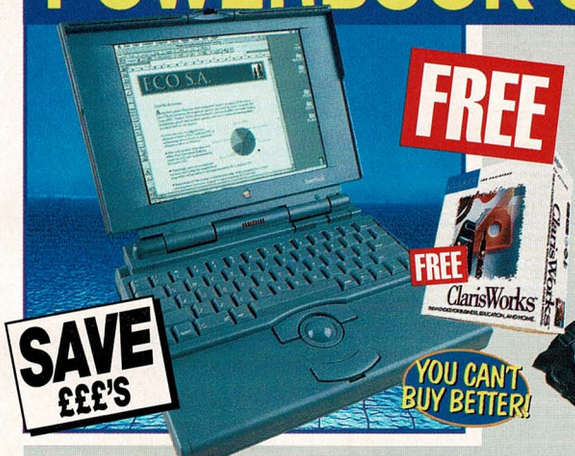

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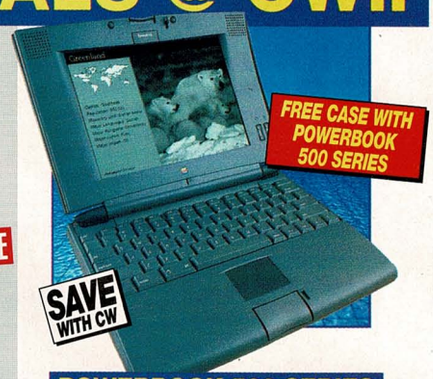

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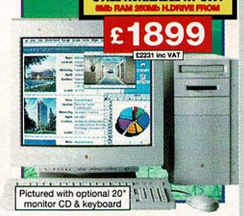

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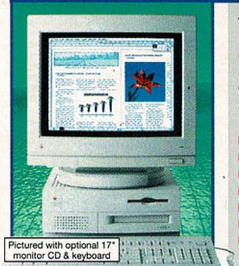

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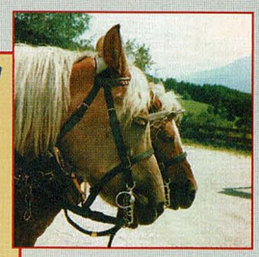

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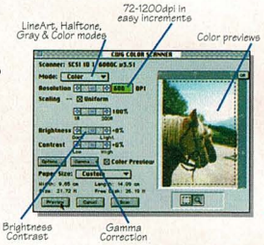

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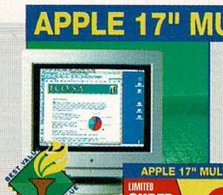

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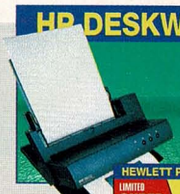

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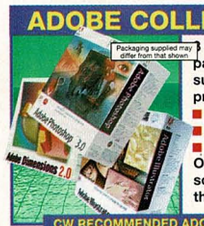

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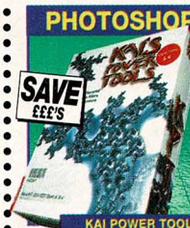

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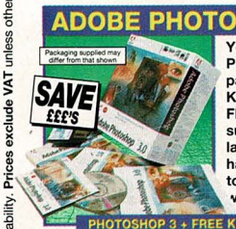

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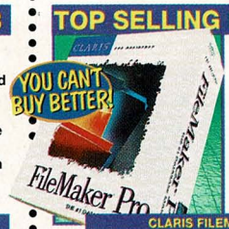

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MACFORMAT NEWS

New Mac-compatibles from Apple and Power on sale, more leisure titles are announced and rock goes multimedia. Richard Hill reports.

Low-price PowerMacs

Apple has released two affordable new 'entry-level' PowerMacs – the first machines based on the second generation of PowerPC chips. Both of the new machines come with quad-speed CD-ROM drives built in (twice the speed of previous Apple drives), and the range starts at just £1,374 – including the monitor.

Each machine is called a Performa rather than a Power Macintosh. The Performa 5200 will attract more attention because of its bold 'all-in-one' case design. While other current Macs are a slim box with a monitor on top, the 5200 brings the two into one case – a bit like the earliest Macs, but all on a stand so you can position it however you want. Designed by Apple's Jay Meschter, the new look is intended to reflect the growing multimedia direction of the Mac. With a high-quality 15-inch monitor built-in, the new PowerMac looks more like a TV than a computer.

The Performa 6200 offers the same processing power as its cousin, but the case design is the same as the existing Performa 630, and the machine will cost £100 less than the 5200.

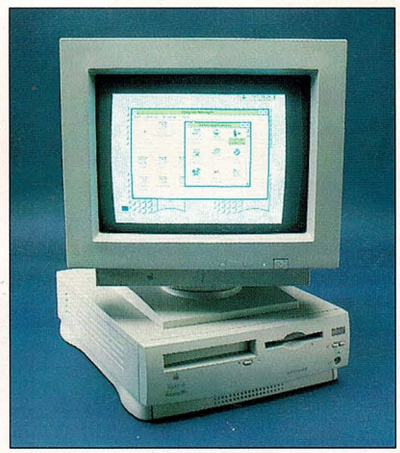
The new PowerMacs, which some people have been nicknaming 'Power Performas', offer the most tempting prospect since the Performa 630, changing our perception of the PowerMac as a machine only for businesses. The remarkably low prices give you more oomph for your cash than ever before, and with built-in quad-speed CD-ROM drives the focus is firmly on multimedia.

Both Performas will be able to use the TV Tuner card that enables you to watch TV and grab video pictures on your Mac. It's proved popular with 630 buyers.

Both machines use the 603 chip, the first of the new PowerPC chips, which is cheaper to make than the existing 601 chip used in other PowerMacs. With the main chip running at 75MHz, the new machines are roughly as fast as a 6100/60, the first PowerMac, but cost less and have more features than their predecessor did originally.

More details of these exciting new machines are in this issue's PowerMac feature, which starts on page 40.

Meanwhile, the Performa 630 DOS Compatible also goes on sale for £1,699. As well as the 68040 chip and double-speed CD-ROM drive the standard 630 has, there's a DX2/66 PC chip, which enables you to run programs for the operating systems DOS and Windows.



The Performa 630 DOS Compatible runs DOS and Windows software as well as your Mac programs. But there's no slot-in card for current 630 owners.

It comes with 12Mb of memory – the Mac chip gets 8Mb while the PC has 4Mb. But you can choose to give your Mac access to all 12Mb for added power, while the PC borrows memory from the Mac but runs more slowly.

If you already own a 630, this doesn't mean you can now get a PC chip to fit into your machine – the PC chip is an integrated part of the DOS Compatible, rather than being a slot-in card.

More clones

Six deals with companies to make Mac-compatible computers are signed but still not announced, according to Apple. With the timing of any announcements being left to the individual firms, there's a hint that at least one company is already well-known for making PCs...

Superb video

Apple's MPEG video card, which enables you to play video CDs and create high-quality video clips, should be out in the summer. Expect a price of less than £200 – but you'll only be able to use it if you have a 630, 5200 or 6200 and a TV Tuner card.

The Performa 5200 features a new case design, with added value in the form of quad-speed CD-ROM and software – including the latest version of *ClarisWorks*.

The Performa 6200 uses the same 603 chip as the 5200 and looks similar to this LC630 – you can even fit the 630 TV Tuner card into it.

New PowerMac set-ups

The new Mac generation will come in a range of memory configurations, with plenty of extras available depending on which one you go for. These prices are Apple's own estimates of what you can expect to pay:

Memory/Hard disk/Features	5200	6200
8/500/CD	£1,474	£1,374
8/500/CD/Plus	£1,549	£1,449
12/500/CD/TV/Plus	£1,799	£1,699

All versions include *ClarisWorks 3.0*, *Mavis Beacon Teaches Typing*, *Spectre Supreme* and clip art disks. The Plus machines include *Grolier Encyclopedia*, *Guinness Disc Of Records*, *Microsoft Dinosaurs*, *Leonardo The Inventor*, *San Diego Zoo Presents The Animals*, *Rosetta Stone* and *Oceans Below* – all on CD-ROM.

Mac games take off

SOFTWARE BOOM

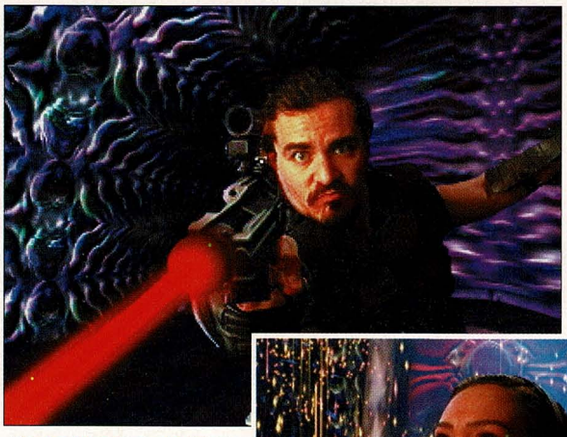
Sales of Mac software in Britain and Western Europe are higher than ever, according to figures released by the Software Publishers Association. Programs worth a total of $46.5 million were sold between October and December in 1994 – that's a 36% increase on the same period in 1993.

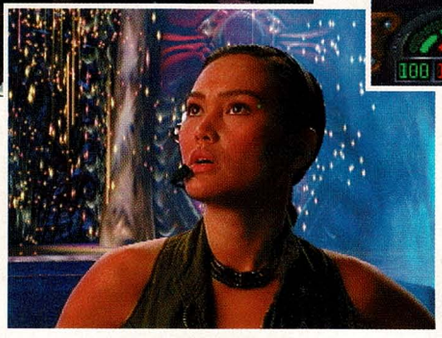
The Mac leisure scene is set to reach new heights after more than 100 Mac games and multimedia titles were announced at the recent European Computer Trade Show (ECTS).

The Mac is attracting serious interest as an entertainment machine because of the spectacular increase in the use of CD-ROMs on the platform and the games-playing potential of the speedy PowerMac. One in four of the multimedia computers sold in 1994 was a Mac, according to research firm Dataquest. CD-ROM drives are becoming an accepted part of the typical Mac set-up, and the Bandai Power Player – which is due in the next 12 months – will also be able to play a type of Mac CD-ROM (see MACFORMAT News in issue 24). The Mac is becoming as good at entertainment as it is at business and creativity.

The variety of titles will also increase as more come out, showing the Mac is capable of running more than *Myst* and *SimCity 2000*. Developers and publishers announcing programs for the Mac include LucasArts, Virgin, Time Warner Interactive, Mindscape, Dorling Kindersley, Simon and Shuster, Interplay, Activision, Sales Curve Interactive, Cyberdreams, Blue Byte Software, Infogrames and Maxis.

The twice-annual ECTS, held this time in a packed hall at London's Olympia, is a show where new games for all computers and consoles are shown to dealers and industry professionals for the first time, before they go on sale later in the year.

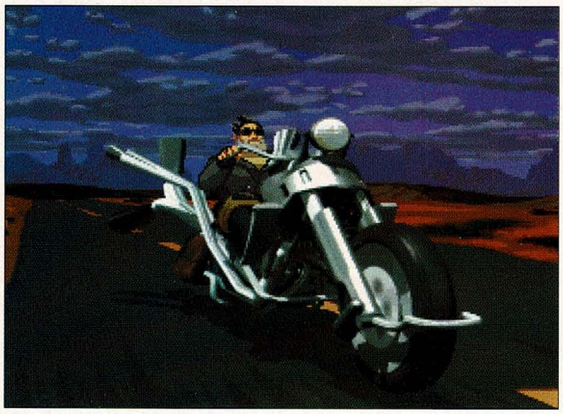




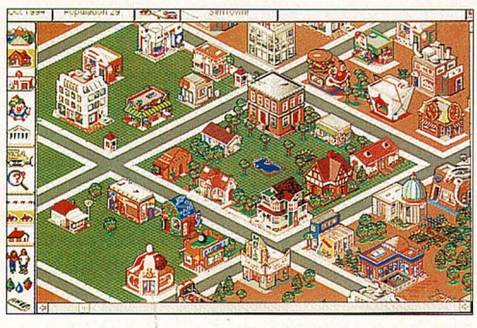
The Daedalus Encounter (above and right) is a sumptuous-looking science fiction epic that's out now. Part-film, part-game, it features *Wayne's World* and *True Lies* actress Tia Carrere. Look out for a review soon in MACFORMAT.

The action game *Dark Forces* is the latest *Star Wars* spin-off to hit the Mac. Due out in May in the United States, it should appear over here shortly afterwards. It will be followed in the autumn by the *X-Wing Collector's CD* and *TIE Fighter CD* compilations.

German firm Blue Byte is offering something different in the shape of the charming *Dr Drago's Madcap Chase*, a computer board game for up to five players. This summer release looks like a Terry Thomas film on your Mac, as you battle your opponents to make the most money racing around the world.



Full Throttle is LucasArts' most technically ambitious adventure to date, bringing a broader range of game styles into play. This amusing comedy biker adventure is due out in the autumn.

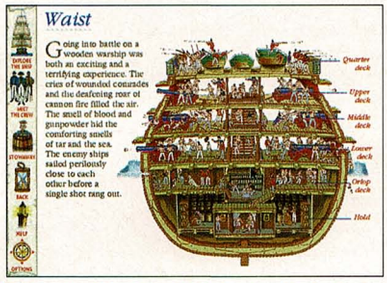


The latest in what must be the longest running series of computer games, *SimTown* is like a simpler version of *SimCity 2000*. It's full of new touches, such as individual characters and animation – look out for a review in MACFORMAT soon.

The 11th Hour, Virgin's long-delayed sequel to the spooky *7th Guest* (previewed in MACFORMAT 15!) should be with us shortly. Robin is trapped in the haunted house and it's up to you to save the day. Let's hope that's not her taking an early bath.

Kingdom O' Magic is a witty-looking title coming this year from Sales Curve Interactive (SCi). More Terry Prachett than Tolkien in style, it mixes humour in with the fantasy, including the Troll Brothers.

Primal Rage (right and below) is already a beat-'em-up hit in the arcades, and it's coming to the Mac this autumn. A cross between *Street Fighter* and a Ray Harryhausen film, it's set in a world where monsters clash.

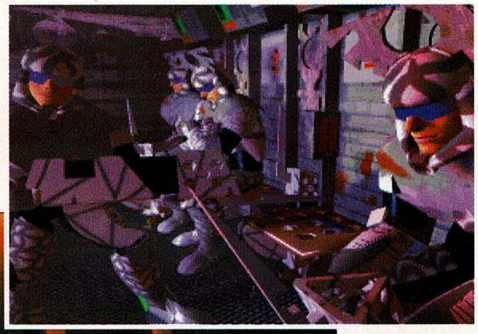

Waist
Going into battle on a wooden warship was both an exciting and a terrifying experience. The cries of wounded comrades and the deafening roar of cannon fire filled the air. The smell of blood and gunpowder hid the comforting smells of tar and the sea. The enemy ships sailed perilously close to each other before a single shot rang out.
Quarter deck
Upper deck
Middle deck
Lower deck
Orlop deck
Hold

Acclaimed multimedia publisher Dorling Kindersley is releasing more titles, including *My First Amazing Incredible Dictionary*, *Stowaway!* (above) and the *Encyclopedia Of Science*.

SYSTEM UPDATED

If your Mac uses System 7.5, you can upgrade it to version 7.5.1 by ordering the System 7.5 Update 1.0 CD-ROM or disks from Apple. A telephone number you can call to ask for Update has been announced – it's 0181 730 2828. The only charge is for postage. Update 1.0 is also available for free on the Internet at:
ftp://ftp.support.apple.com/pub/apple_sw_updates

Also coming later in the year from SCi is *XS* (below), a futuristic battle game giving you the chance to don shielded armour and kick ass. Meanwhile, *Gender Wars* (right) is guaranteed to wind more than a few people up as men do battle with women.



COMING TO THE MAC

Look out for even more games and multimedia on your Mac soon:

Star Trek Omnipedia
Following the superb *Next Generation Technical Interactive Manual*, Simon and Shuster's next *Star Trek* title is a complete episode guide to the original Kirk and Spock TV series.

Alone in the Dark
The trilogy of adventures begins this month with parts one and two; part three will be following later this year.

Zork: Nemesis
The long running *Zork* adventure series shows no signs of running out of steam, with the next instalment due this Autumn from Activision.

Al Unser Jr's Arcade Racing
From French company Atreid Concept, the makers of *Fury Of The Furries*, comes this racing simulator. With TV's Grand Prix coverage looking just like a game, complete with the driver's eye view of the track and on-screen graphics showing your speed, you'll get your chance to be Damon Hill come July.

I Have No Mouth And I Must Scream
This adventure based on Harlan Ellison's science fiction novel is coming this summer from Cyberdreams, the makers of *Dark Seed* – which receives the sequel treatment itself in the autumn.

Dungeon Master 2
The sequel to a game that never actually came out on the Mac, *Dungeon Master 2* belatedly succeeds the first 3D role-playing game ever, which has seen many imitators. It's due out this month.

First Mac clone goes on sale from Power

MS HOTLINE

The Microsoft Connection is a new service from the software firm, which brings its customer and technical support together onto a single phone number. You can contact the service for the price of a local phone call – the number is 0345 002000.

The first Mac-compatible computers from US firm Power Computing are now available in the United States. The company has put together an attractive package that shows how competition between it, Apple and other firms will benefit you. There are three machines in the range – the Power 80, 100 and 110. All three have been confirmed by Apple as 100% compatible with Mac hardware and software.

Distribution arrangements in Britain and the rest of Europe are still being discussed, but an announcement can be expected soon.

The prices of the Power systems start from $1,995 (around £1,245) for the Power 80 compared to about $2,400 for a broadly equivalent Apple PowerMac – monitors cost extra. All machines have at least 8Mb of RAM, at least 356Mb of hard drive capacity (and up to 4Gb – 4,000Mb), a quad-speed CD-ROM drive and built-in Ethernet networking support. Power is offering a broad range of options to help you customise your choice as much as possible.

As well as Apple's System 7.5 Mac OS, the computers come with an enticing selection of extras – *ClarisWorks 3.0*, the *Quicken* finance program, 300 TrueType and PostScript Type 1 fonts from Bitstream, and *Utilities*, *Contact* and *Up-To-Date* from Now Software. Power is also putting together optional discounted bundles of software. These are aimed at business, multimedia, publishing or home and education users.

The first fruit of a new era in Mac computing, the Power range, is confirmed by Apple as 100% compatible with Macs.

Each machine in the Power range comes with a 30-day money-back guarantee and free telephone technical support for life. The company has already said it intends to follow up the launch with more machines later this year as Apple brings out Macs based on the PowerPC 604 chip (see our PowerMac cover feature starting on page 40 for more on the 604 chips). For more details contact Power Computing in the United States on 00 1 512 258 1350.

APPLE PUTS CUSTOMERS FIRST

A reshuffle of personnel at the top of Apple has confirmed the company's new emphasis on areas like multimedia and the home and education markets. The company intends to focus on offering tailor-made solutions for these markets as well as publishing and small businesses, rather than simply relying on its innovatory products.

As well as a change at the top, which sees the departure of Apple vice-president Ian Diery, the structure of the company has been changed in an attempt to make Apple more responsive to its customers.

The changes should see Apple continuing in the direction that has seen it offer cheaper, more powerful Macs, throw its weight behind multimedia and license out its operating system (Mac OS) and hardware to other companies for the first time. Now that PowerMac technology is established, Apple should be concentrating on software and its OS.

Apple is also looking beyond the computer and is putting together a plan to make Mac OS available to companies making other types of electronic devices, such as video recorders. It's talking to companies about establishing a standard design for hardware, in the same way that Apple, IBM and Motorola have agreed on a new computer specification, Common Hardware Reference Platform.

Great SFX guaranteed

SFX is the latest magazine from Future Publishing, makers of MACFORMAT and other fine titles including *.net: the Internet Magazine* and *Future Music*. *SFX* deals with science fiction from every angle – cinema, TV, video, books, comics and toys. The first issue, which goes on sale on Tuesday 23 May for £3, looks at the *Judge Dredd* movie and the new *Star Trek: Voyager* TV series, asks if *Dr Who* is returning to the BBC and talks to top author Iain Banks. And Sigourney Weaver! And Tank Girl! It's sure to sell fast, so ask your local newsagent to reserve you a copy now before it's too late!

SFX

MacDiary

MacFormat's guide to what's happening with the Mac around the country.

■ **Video Positive 95**
Where: Held in various galleries in the Liverpool area.
When: Now until Sunday 4 June.
What: Exhibitions and installations of video and computer art by artists from around the world.
Contact: The Festival Hotline on 0151 709 2663.

■ **The Creative Show**
Where: Royal Horticultural Halls, London SW1.
When: Tuesday 16 May to Thursday 18 May.
What: A graphic design exhibition with tutorials, workshops and displays, including winners of the annual Association Of Illustrators' Images competition.
Price: £10.
Contact: Centaur Exhibitions on 0171 287 5678.

■ **Internet World**
Where: Wembley Conference & Exhibition Centre, London HA9.
When: Tuesday 16 May to Thursday 18 May.
What: A conference on the Internet and what it means to business. Subjects covered include publishing, online commerce and advertising and techniques for providing information.
Price: £763.75 for three days; £323.13 per day.
Contact: Learned Information on 01865 730275.

■ **Multimedia and Computer Workshops**
Where: Central Saint Martin's College Of Art and Design, 27-9 Long Acre, London WC2.
When: Courses held between Monday 10 July and Friday 8 September.
What: A series of five-day courses giving professional instruction on creating multimedia and video or introducing design and illustration on the Mac. Course titles include Software, Interactive Attitude, Multimedia Games in *Director 4.0*, The Moving Image On The Mac, Illustrating With The Mac, Apple Mac for Beginners, Introduction To *QuarkXPress* and *Photoshop*, Magazine Production And Design and Upgrade To *Photoshop 3*.
Price: £490 per course.
Contact: The Development Unit on 0171 753 0388.

Mac attracts music artists to CD-ROM

Apple is encouraging musicians and record companies to create CD-ROMs for the Mac with a new set of initiatives. Multimedia CD-ROMs are being used to add to the experience of standard music CDs to make a hybrid format called CD Plus. Bands and artists getting involved with the Mac music scene include REM, Tom Petty, Squeeze, Ace Of Base, Moby and Sarah McLachlan.

The cornerstone of the development is the Interactive Music Track, a support group that offers music professionals the software and advice they need to make CD Plus discs.

Apple is also supporting Open Music System (OMS), developed by the American firm Opcode. It's a software system that enables musicians to use the Mac with any instrument – keyboards, drum machines or synthesizers, for example – as long as it has MIDI connections. MIDI is the industry standard way of connecting computers to musical instruments.

OMS will be incorporated into a version of QuickTime to come later in the year. You'll be able to compose on your MIDI instruments and save the music as a QuickTime file, enabling you to incorporate original music into your video clips with little hassle. For more details contact Apple on 0800 127753.

Font correction

Two of the fonts described as shareware in Red Kite's *cyber>tv* presentation on MacFormat 23's CD-ROM – FF Marten and FF Dynamoe – are in fact commercial typefaces and are the copyright of Fontshop International. Red Kite apologises to all parties for any confusion caused by its inaccurate description. The fonts are available from FontWorks, who you can contact on 0171 490 5390.

With the help of a future release of QuickTime, your Mac will work seamlessly within a music studio set-up.

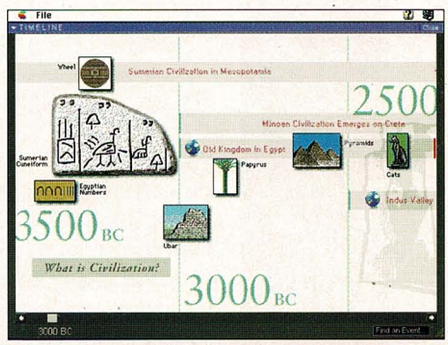
Singer-songwriter Sarah McLachlan's latest album *The Freedom Sessions* has been made into a joint music CD and CD-ROM as well.

Faster CD-ROM drive

Apple is to launch a quad-speed CD-ROM drive, the CD600. With a drive of this speed fitted to your Mac, multimedia programs – especially ones that show video clips in large windows – will run more smoothly.

Apple sells more CD-ROM drives for the Mac than any other firm, so its embracing of quad-speed is a signal that this is the new standard for Mac CD-ROM. (The new Performas, the 5200 and the 6200, are already using quad-speed.) So you can expect software publishers to create more ambitious programs to get the best out of your Mac.

The price of the drive in Britain is yet to be confirmed, but the version with an external case, the CD600e, is selling for $349 (around £218) in the United States. An internal drive, which you can add in to replace your current double-speed model, will follow later in the year. Look out for more details in MacFormat soon.



Software like the forthcoming *Encarta '95* encycyclopedia will run more smoothly with the new quad-speed CD-ROM drive.

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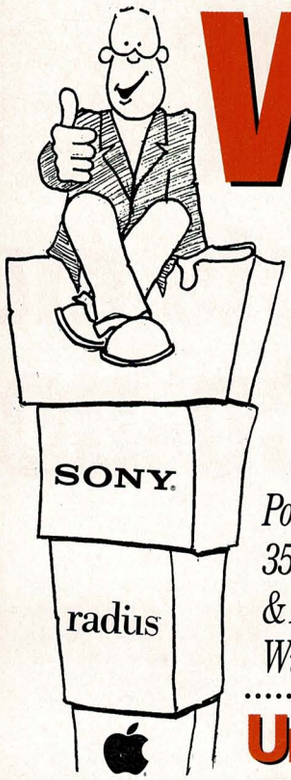

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DeskWriter 660C	£365
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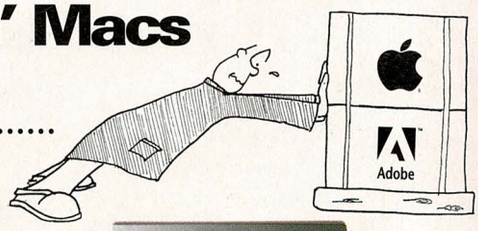

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WHAT'S NEW

MACFORMAT takes a first look at a CD-ROM drive you can use like a personal stereo, a scanner package to help you keep track of things and a virtual noticeboard. Compiled by Richard Hill.

Reno CD-ROM

Media Vision's Reno CD-ROM drive is intended to be a complete package for newcomers to multimedia. Looking more like a personal stereo than a typical drive, it actually fulfils both roles.

There's a carrying case, so you can use it to listen to music CDs on the move. A separate piece that clips on the back provides the drive with SCSI connections so you can hook it up to your Mac and use it as a double-speed CD-ROM drive. Some basic toolkit software is also included, which you can use to play audio CDs while it's connected to your Mac.

Reno's customer-friendly, hi-fi feel works – the whole package is inviting and easy to set up, with a well-written manual. The drive itself doesn't feel too sturdy, though, so it may not stand up to being taken outside a great deal.

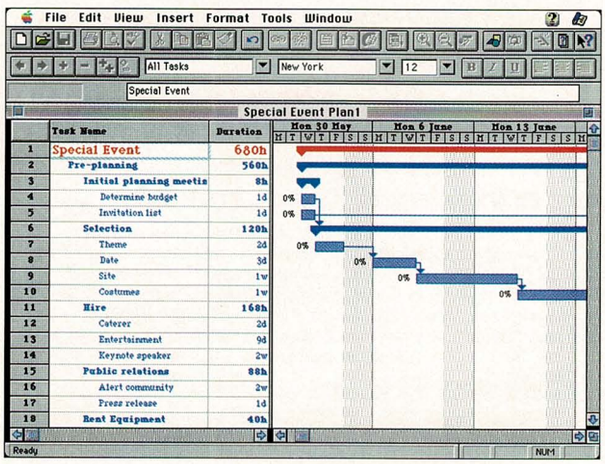
- **Price: £299.99. Out: now.**
- **Requires: Mac SE or better, System 7 and 4Mb of RAM.**
- **For more details contact Media Vision on 01494 465050.**

Project 4.0

Many businesses need to make plans, whether it's for writing and launching an ambitious new program or throwing the party afterwards. *Microsoft Project 4.0*, available later this month, aims to provide a complete solution for assembling the timescale and logistics of a plan and creating charts to make a presentation.

Project 4.0 now looks much like Microsoft's *Office* suite of software. You can exchange information between these programs easily with the OLE (Object Linking and Embedding) system.

- **Price: £411.25. Out: this month.**
- **Requires: LCII or better with System 7, 8Mb of RAM and 12Mb free hard disk space.**
- **For more details contact Microsoft on 0345 002000.**



Anyone – from an architect to a software developer – can use *Project 4.0* to plan out the stages of a complex plan and make presentations using the information.

BOX OF DELIGHTS

Virtual model

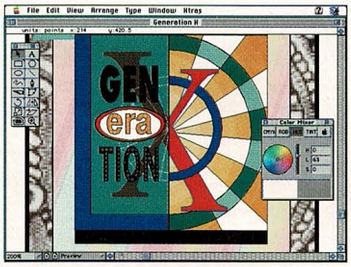
If your figure drawing leaves a lot to be desired, *Poser* may have the solution. Inspired by the wooden mannikins used by artists, it's a program that enables you to pose a model on your Mac's screen. Once you have your figure in the position you want, you can add lighting and other effects before placing it into a graphics or 3D program. This inventive software costs £104.58 until Thursday 31 August 1995, and £175.08 after that date. For more details contact Computers Unlimited on 0181 200 8282.

Graphics pack

The potential of the RasterOps Prism GT graphics card is being unlocked in a package that bundles it with Fractal Design's *Painter*. With the card, *Painter* can create complex pictures far more quickly, which is particularly useful if you're creating a lot of images for animation. The pack costs £1,291.33 – for more details contact Principal on 0181 813 5445.

Famous Five

Five popular illustration and design programs are being sold as the *Graphic Design Studio* bundle from Macromedia. The firm's own *FreeHand*, *Fontographer* and *MacroModel* programs are accompanied by Fractal Design's *Painter* and PIXAR's *RenderMan*. With these programs, you can create and manipulate drawings, 3D models and text – a special manual promises to show you how to integrate the programs effectively. The price of the entire package is £881.25 – for more details contact Computers Unlimited on 0181 200 8282.



The drawing program *FreeHand* received a 92% Classic rating in MACFORMAT 23 – and now it's available as part of a value graphics bundle.

Scanner prices cut

Epson is announcing dramatic price cuts for its colour scanners. The cost of the GT-6500 falls from £957.63 to £574.58, which includes *Photoshop LE* and *Omnipage Direct* OCR software. Meanwhile the GT-9000, which was rated at 72% at its old price of £1,815.38 in MACFORMAT 24's scanner round-up, now costs only £1,162.08. A full version of *Photoshop* is included. For more details contact Epson on 01442 61144.

SoftWindows doubled

SoftWindows, the program that enables your Mac to run software for the PC operating systems DOS and Windows, is currently being offered along with *RAM Doubler* for £351.33. Memory and hard drive management carried out by *RAM Doubler* effectively means you can have twice as much RAM available to run the emulator and Windows programs. For more details contact Principal on 0181 813 5445.

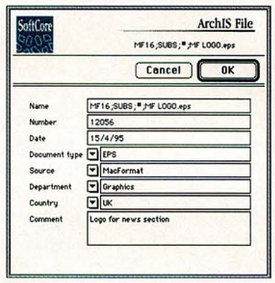
ScanPartner Jr with ArchIS

It may only be twice as long as its own power supply, but the ScanPartner Jr is a full-blown black-and-white A4 scanner. SoftCore has bundled it with its own *ArchIS* program to offer a complete archiving package.

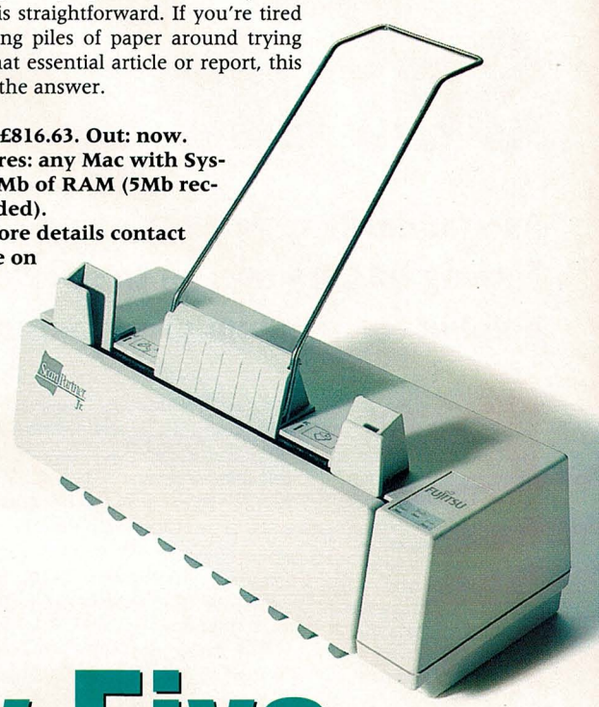
With *ArchIS*, you can catalogue any document – whether it's already on your Mac's hard drive or on a piece of paper (which is where the scanner comes in). Entering a few basic details as the document is made part of your records enables you to search for it later.

Installing the software is a pain – it's been made more complicated than it need have been through poor documentation. But using the program once it's up and running is straightforward. If you're tired of shuffling piles of paper around trying to find that essential article or report, this could be the answer.

- **Price: £816.63. Out: now.**
- **Requires: any Mac with System 7, 4Mb of RAM (5Mb recommended).**
- **For more details contact SoftCore on 01895 846434.**



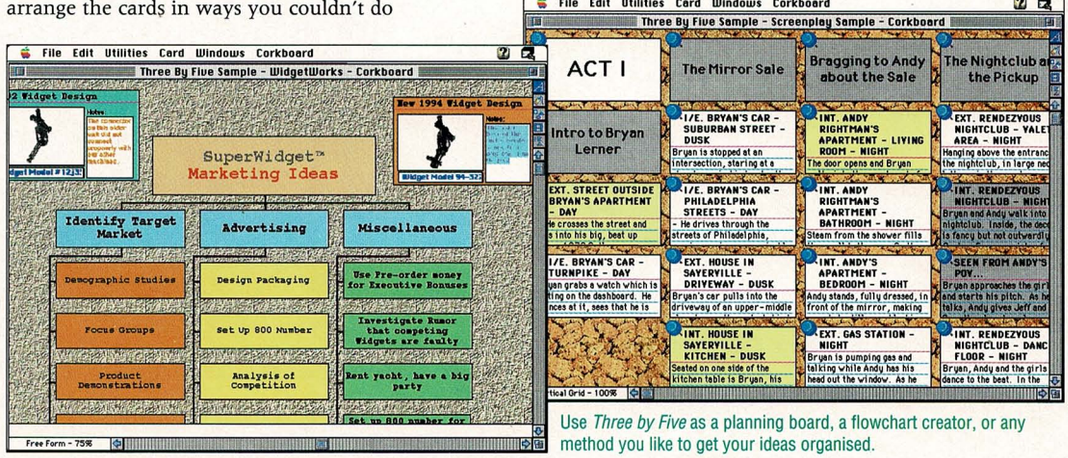
Using *ArchIS* means you can catalogue electronic and paper documents as though they were the same thing.



Three by Five

The name of *Three by Five* refers to the typical size of index cards, but this is no indexing database system. The program is a renamed version of *Corkboard*, which enables you to note down and organise your ideas. It uses the metaphor of pinning cards to a board, but on your Mac. Freed from the restrictions of drawing pins and bits of paper, you can arrange the cards in ways you couldn't do normally, giving free rein to your ideas.

- **Price: £117.49. Out: now.**
- **Requires: Mac Plus or better with System 6.0.5 or later and 4Mb of RAM.**
- **For more details contact Softline on 0181 401 1234.**


File Edit Utilities Card Windows Corkboard
Three By Five Sample - WidgetWorks - Corkboard
SuperWidget™ Marketing Ideas
Identify Target Market
Advertising
Miscellaneous
Demographic Studies
Design Packaging
Use Pre-order money for Executive Bonuses
Focus Groups
Set Up 800 Number
Investigate Rumor that competing Widgets are faulty
Product Demonstrations
Analysis of Competition
Rent yacht, have a big party
Free Form - 75%
File Edit Utilities Card Windows Corkboard
Three By Five Sample - Screenplay Sample - Corkboard
ACT I
The Mirror Sale
Bragging to Andy about the Sale
The Nightclub at the Pickup
Intro to Bryan Lerner
I/E. BRYAN'S CAR - SUBURBAN STREET - DUSK
INT. ANDY RIGHTMAN'S APARTMENT - LIVING ROOM - NIGHT
EXT. RENDEZVOUS NIGHTCLUB - VALET AREA - NIGHT
EXT. STREET OUTSIDE BRYAN'S APARTMENT - DAY
I/E. BRYAN'S CAR - PHILADELPHIA STREETS - DAY
INT. ANDY RIGHTMAN'S APARTMENT - BATHROOM - NIGHT
INT. RENDEZVOUS NIGHTCLUB - NIGHT
I/E. BRYAN'S CAR - TURNPIKE - DAY
EXT. HOUSE IN SAYERVILLE - DRIVEWAY - DUSK
INT. ANDY'S APARTMENT - BEDROOM - NIGHT
SEEN FROM ANDY'S POV...
INT. HOUSE IN SAYERVILLE - KITCHEN - DUSK
EXT. GAS STATION - NIGHT
INT. RENDEZVOUS NIGHTCLUB - DANCE FLOOR - NIGHT

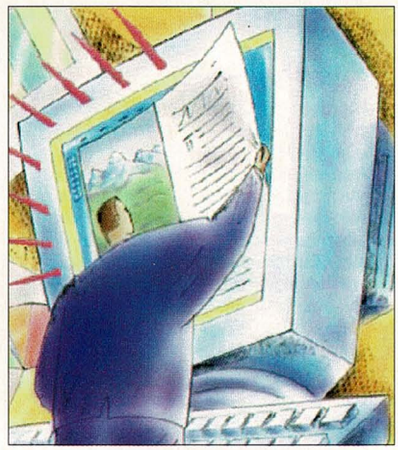
Use *Three by Five* as a planning board, a flowchart creator, or any method you like to get your ideas organised.

MACROSCOPE

The stories behind the news, the people behind the headlines – every month, MacroScope brings you the information you need to make sense of the news in the Mac world. Compiled by Richard Hill.

Serving the Internet

As standards of publishing on the Internet rise, the Mac is coming into its own as the perfect machine for the Net, helping the medium grow faster and look more professional.



You can view any document based on Adobe's Portable Document Format , even if you don't have the program or fonts used to create it.

TOP DTP PROGRAMS

The current versions of *QuarkXPress*, *FrameMaker* and *PageMaker* – without HTML facilities – were reviewed in last issue's DTP special. Look out for more details on DTP for HTML in future issues of MACFORMAT.

MACFORMAT ON-LINE

You can find the World Wide Web version of MACFORMAT simply by pointing your browsing program at **http://www.futurenet.co.uk/**

It's become the most talked-about computing phenomenon in years, and there's no sign of interest in the Internet flagging. Millions of people have joined the computerised web of worldwide communication in just a few months, while the number of pages on the popular World Wide Web service is estimated to have doubled in three months.

But heavy demands are being placed on the infrastructure of the Internet – the computers that make it work. The Net depends on computers called servers, which store the data you can access using your Internet programs on huge hard drives. Big as they are, though, even servers run out of room – but with the increasing hunger for information, the companies and universities that run servers have little option but to buy more computers to keep up with the demand.

Traditionally, servers have run an operating system called UNIX, which is powerful and fast but difficult to set up and use. As the Mac, and especially the PowerMac, becomes more capable, more server organisations are turning to Apple for a solution to their problems. A range of PowerMacs called Workgroup Servers are matching the power of UNIX systems, while offering the famed ease-of-use of the Mac OS. Organisations are finding the Apple Servers easier to set up and more adaptable to ever-changing situations as the Internet grows.

With Apple capitalising on the development with new servers specially designed for Internet provision – including Net software – and the PowerMac becoming capable of being an excellent small server, the Mac could become the backbone of the Internet.

Net publishing

The Mac is also coming into its own on the World Wide Web (WWW), the most graphically sophisticated area of the Internet. Here you can browse through thousands of pages of on-line information. Within just one page, links of coloured type can take you automatically to related areas – even though the next page could be stored halfway across the world from the one you've just left. The World Wide Web is set to carry on growing, as companies become able to make money from it with on-line shopping and by charging for information.

Any computer that can show the graphics – including the Mac, of course – can access the WWW pages, as long as a program that understands the WWW system has been written for it. The system is based on a programming language called HTML (HyperText Mark-up Language). The companies like Netscape and Mosaic that are responsible for making the Web-browsing programs have agreed on the use of HyperText Mark-up Language for making the pages.

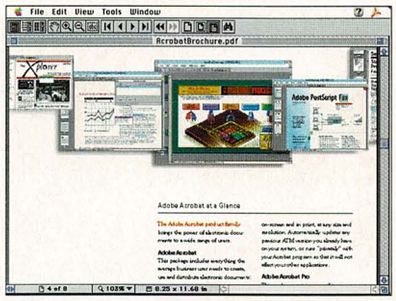
The disadvantage of HTML is that using it is laborious – to make a page, you first have to create a list of instructions in the HTML language, which the browsing program will then convert into the page of text and pictures as you see it on-screen. For those who have to make the pages up, it's the equivalent of having to

```
<html>
<head>
<TITLE>FutureNet: MacFormat 24 - News - Pippin unveiled</T
<body>
<hr size=5>
<IMG vspace=2 SRC="http://www.futurenet.co.uk/computing/
MF24/header.GIF" width=452 height=128><IMG SRC="http://
www.futurenet.co.uk/computing/macformat/MF24/pippinhea
height=44><P>
<B>Pippin</B>, Apple's new multimedia console design and th
to the Mac family, was shown in Britain for the first time in
demonstrated at this year's Electronic Books conference.<P>
```

If a page is to appear on the World Wide Web, it has be translated into a limited and fiddly-to-use programming system called HyperText Mark-up Language (HTML)…

Netscape: FutureNet: MacFormat 24 - News - Pippin unveiled
Back
Forward
Home
Reload
Images
Open
Print
Find
Stop
Location: http://www.futurenet.co.uk/computing/macformat/MF24/?News24pippin.html
MACFORMAT NEWS
Pippin unveiled
Pippin, Apple's new multimedia console design and the latest addition to the Mac family, was shown in Britain for the first time in March. It was demonstrated at this year's Electronic Books conference.
The new machine (previously reported on in Macformat 20 and 22) is based on the latest PowerPC 603 chip, which is cheaper to make than the 601s used in PowerMacs, and uses a quad-speed CD-ROM drive - double the speed of a typical drive. It will first appear under the name of the Power Player, and will be sold by Japanese games company Bandai. As well as the strong games connection, multimedia is clearly going to play a key part in the future of Pippin.
An early launch is a possibility, according to Apple's New Media Marketing Manager Kanwal Sharma. 'Obviously I can't speak on Bandai's behalf, but we're hoping to see the first machines shipping some time this summer. It's going to be launched in Japan and in the US, followed by Europe.' Sharma was not able to say how soon a British and European launch might follow the Power Player's appearance elsewhere.
Sharma says the Power Player is designed to capitalise on the rising interest in multimedia in the home
Document: Done.

…Which your Mac converts into a graphic delight – like this page from MACFORMAT's site on FutureNet.



With PDF, you can easily view pages that are more like ones in magazines than the pages you get with HTML.

use the Mac without the benefit of its graphical interface.

With more people joining the Internet, there are many who aren't immersed in computing and are intolerant of rough edges on their Internet experiences. Their need for slick packaging is placing new demands on Web publishers. Professionalism is becoming the order of the day, and desktop publishing companies are now able to capitalise on the need for good design capabilities.

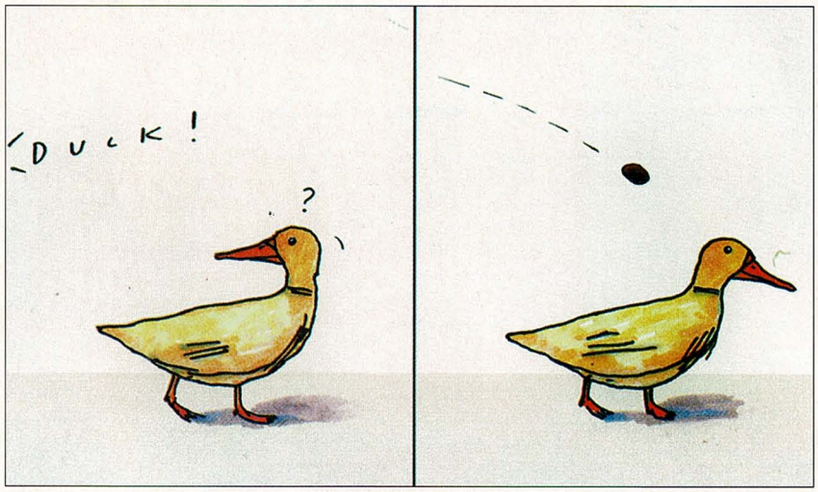
BeyondPress is a module that works with top DTP program *QuarkXPress*. You can lay out your Web pages within *XPress*, and let *BeyondPress* do the hard work of converting it into HTML code. Creating pages is now easier than ever before. (*BeyondPress* should now be available for £699.13. For details contact XChange International on 0171 637 2966.) A new version of another powerful DTP package, *FrameMaker*, will also enable you to lay-out HTML the simple way – which means you can concentrate on designing the pages better.

HTML challenge

Adobe, the company behind *XPress* rival *PageMaker*, is taking the idea even further. As well as supporting HTML in *PageMaker*, Adobe is trying to create HTML's successor in the form of its own PDF (Portable Document Format). PDF retains the ability to be read by any computer that supports it. You can view a page even if you don't own the fonts used to lay it out. And PDF, which can display a wide variety of fonts, can handle more complex documents than the more basic HTML. Adobe makes a program called *Acrobat* that can display PDF, and has agreed with Netscape – currently the top provider of browsing programs – to work together on a PDF-friendly version of Netscape's *Navigator* program.

PDF is already catching on as a way of reading text on a computer screen, and Adobe's bid for the Internet has some chance of succeeding. By working with Netscape, it can make PDF and the established HTML work side-by-side until, it hopes, PDF takes over.

With the Internet and the world of publishing coming ever closer together, the Mac is well placed to become the computer of choice for the lucrative activity of creating the material that keeps the Net surfers afloat.



Mac dreams

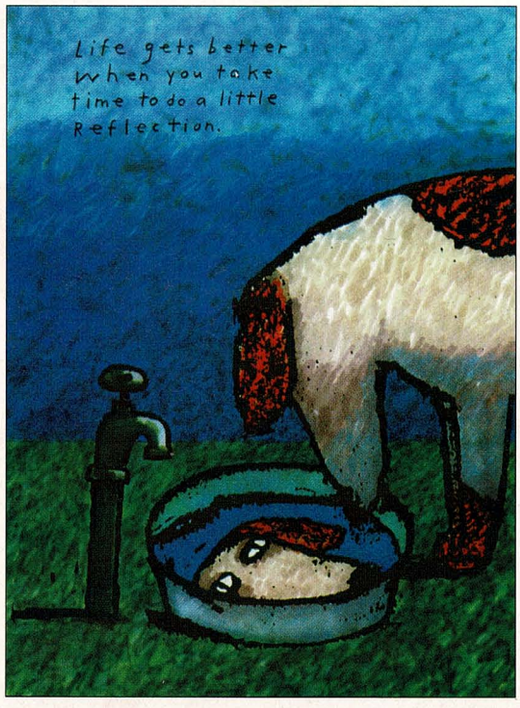
The work of Richard Stine takes you to an inner world of ideas – a world devised and produced on an Apple Mac.

Twenty-five years of art from illustrator Richard Stine has been distilled into his new book, which uses the Mac to add new dimensions to his past work. The whole of *The World of Richard Stine* was put together in less than four months, with the Mac enabling him to change and lay out his work. Stine says, 'Without the Macintosh, I would never have been able to do this.'

Stine's work has been appearing in books, magazines and other media (he owns a greeting card firm) for decades. The book is a quiet meditation on life and creativity, exploring the abstract with images and text.

Each piece is begun in Stine's sketchbook, as he works on the composition in black ink. Mistakes and crossings-out can often make it into the final piece, showing the work process in action: 'I still prefer to work by hand when I'm drawing – the Mac can be too clean and clinical.' The sketch is then scanned into Stine's PowerMac ('I started with a Mac 512 in 1984'), and from here the artist can add to it with any of the graphic options offered by the Mac. 'I started the project by scanning in slides of some of my old work and getting them put on a CD-ROM. Some of the pieces in the book are actually collages of old work.'

As with many areas of life, Stine sees more in the Mac than the work and play purposes it was built for. 'I'm fascinated by the differences in different people's Macs. I see the Desktops of my friends' machines and I'm amazed by how some are tidy, arranged in neat folders, and others are messy and unorganised. In a strange kind of way, the Mac is reflecting the subconscious of its user.'



Stine is using his Mac to reinterpret his old work and seek out new directions in his current material. The illustrations on this page are taken from *The World of Richard Stine*.

Illustrator Richard Stine: 'Without the Macintosh, I would never have been able to create this book.'

READ ALL ABOUT IT

The World Of Richard Stine (ISBN 1-55670-375-9) costs £19.99 for the hardcover edition. For more details contact Layzell PR on 01473 737468.

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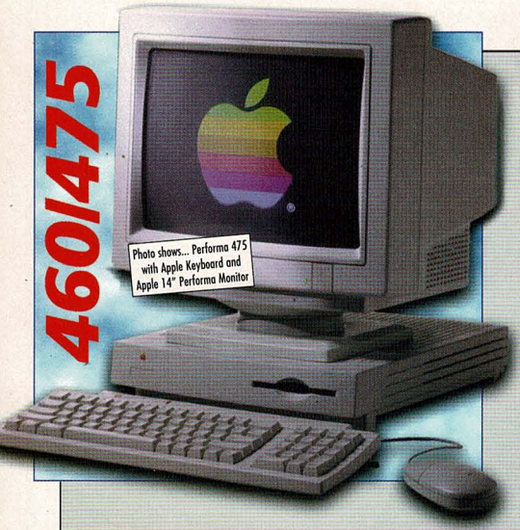

E&OE.

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(see panels left and right)

Look around for the PERFORMA 'PLUS' bundles on this advert and see just how much you get from GH FREE!

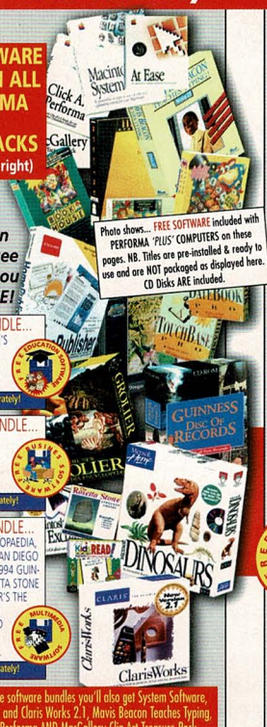
Photo shows... FREE SOFTWARE included with PERFORMA 'PLUS' COMPUTERS on these pages. NB. Titles are pre-installed & ready to use and are NOT packaged as displayed here. CD Disks ARE included.

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QUADRA 630	4Mb.	500Mb.	£1249 (£1468)
QUADRA 630	20Mb.	500Mb.	£1549 (£1821)
QUADRA 630	4Mb.	700Mb.	£1299 (£1527)
QUADRA 630	20Mb.	700Mb.	£1599 (£1879)

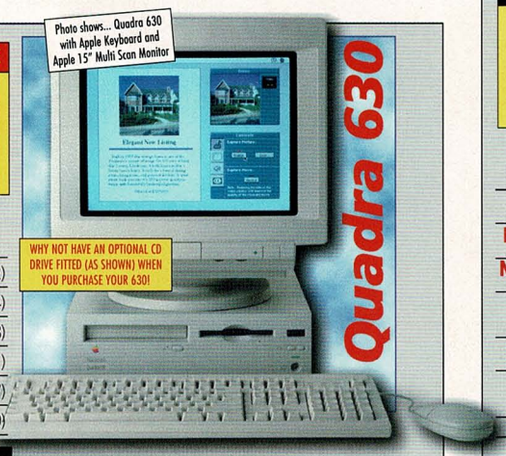
Photo shows... Quadra 630 with Apple Keyboard and Apple 15" Multi Scan Monitor
Quadra 630
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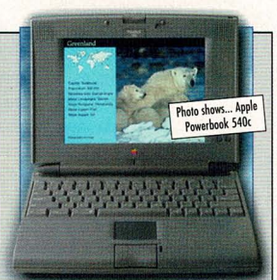
POWERBOOKS FROM... £759 (£891.83 inc. VAT)



Model	Price
150 - 4/120 + Claris Works 2.1	£759 (£892)
NEW 520 - 4/240 + Mobility Pack	£1229 (£1445)
NEW 520c - 4/240 + Mobility Pack	£1799 (£2114)
520c - 12/320 + Mobility Pack & Modem	£2349 (£2761)
540c - 4/320 + Mobility Pack	£2879 (£3383)
540c - 12/500 + Mobility Pack & Modem	£3499 (£4112)

APPLE POWERBOOK DUOs

280c - 4/320 + Mobility Pack	£2399 (£2819)
280c - 12/320 + Mobility Pack & Modem	£2699 (£3172)

POWERBOOK ACCESSORY & SOFTWARE SAVINGS!

150/Duo 230 - 4Mb. RAM Upgrade	£166 (£195)
140/45,150,160/65,170,180/c - Battery	£43 (£50)
500 - 4Mb. RAM Upgrade	£171 (£200)
500 - Express Modem	£325 (£381)
500 - PCMCIA Expansion	£113 (£132)
500 - Type III Intelligent Battery	£90 (£106)
Duo - Dock Plus inc. 230HD & VRAM	£622 (£730)
Duo - External 1.44 Mb. Floppy Drive	£94 (£110)
Duo - Floppy Drive Adaptor	£81 (£95)
Duo - Deluxe Leather Carry Bag	£120 (£140)
Duo - Type III Rechargeable Battery	£77 (£90)
Powerbook (non Duo) - Security Kit	£26 (£30)
All Powerbooks - Norton Essentials	£81 (£95)

PHONE for more accessories/software!

Finance and Leasing Facilities are available for both individuals and businesses (subject to status, please ask us for full written details)

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Powermacs

Photo shows... Power Mac 6100 with Apple Extended Keyboard and Apple 14" Audio Vision Monitor
Prices for CPU only. Don't forget your Keyboard & Monitor

Mac™OS + Apple® for Windows

SEE BELOW* FOR NEW HARDWARE DOS CARD 486 PC COMPATIBLE 6100/60s, and remember, ALL MACS/POWERMACS CAN RUN WINDOWS IF REQUIRED VIA SOFTWINDOWS

BUILD YOUR OWN POWERMAC SYSTEM - WITH GH CPUs

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Powermacs make your workload fly! Choose from... the entry level 6100,

GREAT DEALS ON ENTRY LEVEL POWERMAC 6100s

	RAM	Hard Drive	CD	Price
6100/60	8Mb.	250Mb.	While Stocks Last	£949 (£1116)
6100/60 CD	8Mb.	250Mb.	✓	£1099 (£1292)
6100/66	8Mb.	350Mb.		£1199 (£1409)
6100/66 CD	8Mb.	350Mb.	✓	£1349 (£1585)
6100/60 + PC*	8Mb.	250Mb.		£1610 (£1892)
6100/60 CD + PC*	8Mb.	250Mb.	✓	£1725 (£2027)

*6100/60 PC Systems include 486 DX2 66MHz hardware card & MS DOS 6.2 (Windows may be purchased separately)

GH BONANZA ON MID-RANGE POWERMAC 7100s

	RAM	Hard Drive	CD	Price
7100/66 DL	8Mb.	350Mb.		£1447 (£1701)
7100/80	8Mb.	350Mb.		£1875 (£2204)
7100/80 CD	8Mb.	700Mb.	✓	£2178 (£2560)
7100/80 CD-AV	8Mb.	700Mb.	✓	£2293 (£2695)

BUILD YOUR OWN POWERMAC SYSTEM - WITH GH CPUs

POWERMAC 8100s FROM... £2549 (£2995.08 inc. VAT)

THE WORLD's FASTEST DESKTOP COMPUTER... The Apple Powermac 8100/110... available at GH LOW prices!

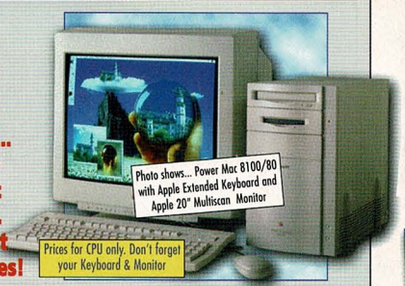
Photo shows... Power Mac 8100/80 with Apple Extended Keyboard and Apple 20" Multiscan Monitor
Prices for CPU only. Don't forget your Keyboard & Monitor

SAVE WITH GH ON POWERMAC 8100/100s

	RAM	Hard Drive	CD	Price
8100/100	8Mb.	700Mb.		£2549 (£2996)
8100/100 CD	16Mb.	700Mb.	✓	£2935 (£3449)
8100/100 CD-AV	16Mb.	1000Mb.	✓	£3190 (£3749)

PRICE CRASH — POWERMAC 8100/110

	RAM	Hard Drive	CD	Price
8100/110 CD	16Mb.	2000Mb.	✓	£3899 (£4582)

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"Got a technical problem?" "Need an Upgrade?" "Want a new peripheral fitting?" LOOK NO FURTHER... Our Apple Approved Engineers will do the job.

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GH offer you a chance to buy one of TWO GREAT PUBLISHING BUNDLES AT VERY SPECIAL PRICES. Just look at what's on offer & see how much YOU CAN SAVE!

PUBLISHING PACK 1 — POWERMAC 6100/66... £2399 (£2818.83 inc. VAT)

- PowerMac 6100/66, 8/350
- Apple Extended Keyboard
- Apple 14" Colour Display
- Adobe PageMaker 5.0
- Agfa StudioScan I with...
- Photoshop Lite
- Caere Omnipage Direct and.. FotoSnap, FotoLook, PhotoTune Lite & Digital Guide to Scanning Book.
- Agfa Type Collection CD with a special 25% discount 'first purchase' offer from the collection(no limits on that first purchase!)

PUBLISHING PACK 2 — POWERMAC 8100/80... £3799 (£4463.83 inc. VAT)

- PowerMac 8100/80, 8/500
- Apple Extended Keyboard
- Apple 17" MultiScan Display
- Adobe PageMaker 5.0
- Agfa StudioScan I with...
- Photoshop Lite
- Caere Omnipage Direct and.. FotoSnap, FotoLook, PhotoTune Lite & Digital Guide to Scanning Book.
- Agfa Type Collection CD with a special 25% discount 'first purchase' offer from the collection(no limits on that first purchase!)

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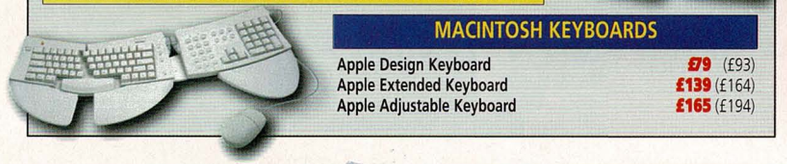
Monitor Model	Price	
Apple 14" Performa Plus (.28)	£209	(£246)
Apple 14" Trinitron (.26) NEW LOW PRICE	£239	(£281)
Apple 14" AudioVision (.26)	£345	(£406)
Apple 15" MultiScan (.28)	£299	(£352)
Apple 17" Trinitron MultiScan (.25)	£599	(£704)
Apple 20" Trinitron Multiscan (.26)	£1299	(£1527)
Sony 15" SFI Trinitron MultiScan (.26)	£345	(£406)
Sony 17" Trinitron MultiScan (.26)	£669	(£822)
SuperMac 17" Trinitron MultiScan (.25)	£649	(£763)
SuperMac 20" Trinitron Multiscan (.26)	£1199	(£1409)

NB. Shown below are the sizes of monitors individual Macs can run (some require more Video RAM (VRAM) for this and/or in order to increase the Maximum number of colours that can be displayed)

LC III/Performa 450-460-630/Quadra 630/Powermac 6100 *Max 17"* Performa 475/Powermac 7100-8100 *Max20"*



MACINTOSH KEYBOARDS

Apple Design Keyboard	£79 (£93)
Apple Extended Keyboard	£139 (£164)
Apple Adjustable Keyboard	£165 (£194)

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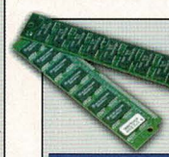

RAM - 4Mb. SIMMS	£115 (£136)
RAM - 8Mb. SIMMS	£219 (£258)
RAM -16Mb. SIMMS	£359 (£422)
Powermac 256K Cache	£159 (£187)

MACINTOSH UPGRADE - BOARDS

LC 475/630 to Powermac Card	£429 (£505)
LC 630 to Powermac Card	£309 (£364)
Performa 630 FULL 68040	£309 (£364)
Powermac 6100 PC 486 DX2 66MHz	
Microsoft DOS Card	£399 (£469)
Collect/fit & delivery add	£30 (£36)

630 TV AND VIDEO CARDS

630 Video-In Card	£90 (£106
630 Video-In and TV Tuner Card	£210 (£247)
630 Video-Out Card	£210 (£247)

TOP 30 MACINTOSH SOFTWARE TITLES

Quark Xpress 3.3 - Native	£638 (£750)	Connectix Speed Doubler	£60 (£70)
- 68030	£587 (£690)	Retrospect	£153 (£180)
Adobe Illustrator 5.5	£289 (£340)	Letraset Painter	£255 (£300)
Adobe Photoshop 3.0	£400 (£470)	Suitcase2.1.4	£43 (£50)
Aldus Page maker	£399 (£467)	Adobe Type Manager	£47 (£55)
Microsoft Word	£249 (£293)	WriteNow	£30 (£35)
Claris Works 3.0	£98 (£115)	Microsoft Excel	£255 (£300)
Claris Filemaker Pro	£98 (£115)	Aldus Freehand 5	£332 (£390)
Noton Utilities	£81 (£95)	Autoroute Express	£98 (£115)
Suitcase	£49 (£58)	M.Y.O.B	£170 (£200)
SAM - AntiVirus	£55 (£65)	Claris Organiser	£47 (£55)
KAI's Power Tools	£106 (£125)	Encarta CD	£64 (£75)
KPT Bryce	£64 (£75)		
KPT Convolver	£106 (£125)		
Microsoft Office	£362 (£425)		
Microsoft Word 6	£255 (£300)		
SAM 4.0	£102 (£120)		
RAM Doubler	£60 (£70)		
Myst CD	£34 (£40)		

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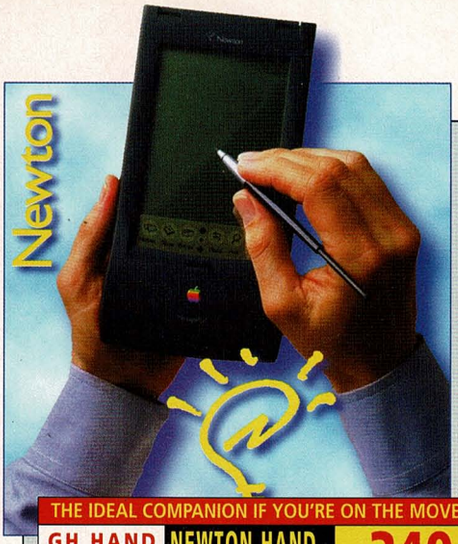

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GH HAND HELDS NEWTON HAND HELDS FROM... **£340** (£399.50 inc. VAT)

NEWTON 110 -1Mb.	£340	(£400)
NEWTON 120 - 2Mb.	£399	(£469)
1Mb. Storage Card	£60	(£70)
2Mb. Storage Card	£111	(£130)
4Mb. Storage Card	£199	(£234)
Connection Kit - Mac	£51	(£60)
Connection Kit - Windows	£51	(£60)
Leather Carrycase - 100/Original Message Pad	£34	(£40)
Leather Carrycase - 110/120	£42	(£50)
Battery Pack Wall Recharger inc. Battery - 100	£34	(£40)
Mains a/c Charging Station inc. Battery -110/120	£47	(£56)
Nicad Battery - 110	£14	(£17)
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Tapworks	£51	(£60)
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GoFigure (15 Calculators)	£25	(£30)
Dell Crosswords	£30	(£36)
Notion	£42	(£50)
Dyno Notepad	£38	(£45)
Filepad	£81	(£96)
Columbo's Mystery Capers	£25	(£30)
Day Timer & Expense Pack	£60	(£71)
Personal Time Billing	£68	(£80)

DESKTOP SCANNER

GH MACPAC EXTRA SICOS 1200dpi SCANNER JUST... **£349** (£410.08 inc. VAT)

GH Special... SAVE £50! on previous price

The SICOS scans at up to 1200dpi, comes with both EasyReader™ OCR (Optical Character Recognition) Software and ColorStation Pro LE-E™ RGB Image Manipulation Software (with Photoshop™ plug-in compatibility) and is supplied ready for use - complete with a SCSI cable and terminator. With a Sicos you can scan in modes of 16.7 million colours, lineart and halftones, and 256 greyscales. The unit incorporates an automatic document feeder (with suitable paper types) and a quality dust cover. The Sicos has a small footprint and can actually scan faster than flatbeds! Just Picture It... With a SICOS Scan You Can - At a LOW Price!

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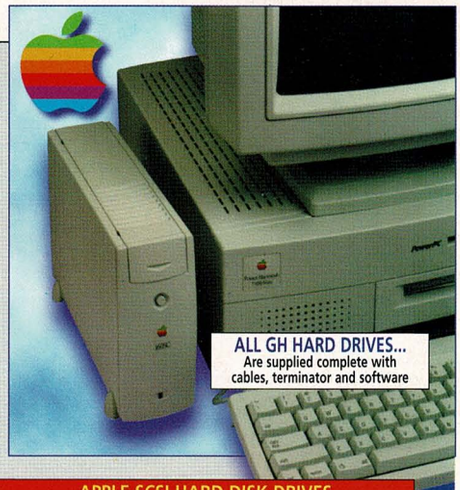

ALL GH HARD DRIVES... Are supplied complete with cables, terminator and software

APPLE SCSI HARD DISK DRIVES

GH MACPAC EXTRA APPLE HARD DRIVES FROM... **£280** (£329.00 inc. VAT)

Designed & Styled to match your Mac System

HD Specification	Price	
325Mb. External Hard Drive	£289	(£340)
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1000Mb. External Hard Drive	£649	(£763)

QUANTUM SCSI HARD DISK DRIVES

INTERNAL SCSI		EXTERNAL SCSI	
HD Spec	Price	HD Spec	Price
365Mb.	£149 (£176)	365Mb.	£229 (£270)
540Mb.	£179 (£211)	540Mb.	£259 (£305)
730Mb.	£199 (£234)	730Mb.	£279 (£328)
1000Mb.	£449 (£528)	1000Mb.	£539 (£634)
2100Mb.	£779 (£916)	2100Mb.	£859 (£1010)

TEXAS INSTRUMENTS 600dpi LASER BARGAIN

GH MACPAC EXTRA 600dpi LASER PRINT FROM... **£599** (£703.83 inc. VAT)

GH VALUE 600dpi QUALITY LASER PRINTER

If you've been waiting for the expense of 600dpi Laser Printing to COME DOWN, but not at the cost of quality - your wait is over! The new TEXAS INSTRUMENTS MICROLASER 600 could be the answer to your dreams with its feature packed specification...

- A4 Paper Size • 250 Sheet Paper Tray • Fast 5ppm Printing
- True 600 x 600 dpi Resolution • Adobe Postscript Level 2
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- Autosensing Connections for MAC or IBM Compatibles
- Options to add a Universal Sheet Feeder for a variety of paper sizes (eg. Laser Labels, Laser Envelopes, Transparencies etc.)
- 2 or 4Mb. RAM (max 10Mb.)

TI Microlaser 600 Model...	Price	
Microlaser 600 with 2Mb. RAM	£599	(£704)
Microlaser 600 with 4Mb. RAM	£725	(£852)

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GH MACPAC EXTRA PINNACLE RCD 1000... **£1379** (£1620.33 inc. VAT)

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RECORDABLE CD MEDIA **£21.23** (£24.95 inc. VAT)

CDs have replaced tape cassettes in the music world - recordable CDs are now taking over from tape in the computer world too. INTRODUCING THE NEW PINNACLE RCD 1000 - The best and most cost effective way to back up your valuable files! Each recordable CD can hold up to 680Mb. of fast random access data which works out at... AS LITTLE AS... 3p per Mb. - compare that to other storage media! RCD CDs are reliable with a 5 year shelf life specification. The RCD 1000 is supplied complete with back up mastering software, all cables, terminator and an easy guide manual.

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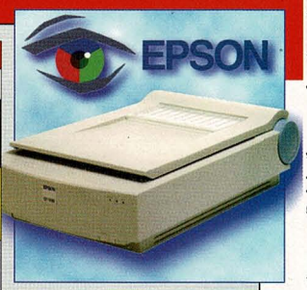
GH SPECIAL!!! STUDIOSCAN II BARGAIN AT... **£679** (£762.58 inc. VAT)

When you buy an Agfa Studio Scan or StudioScan II from GH, you'll also get FotoSnap software (which auto controls density, unsharp masking and moire patterning etc. - WHILST YOU SCAN!), FotoTune LE (Agfa colour management system) and FotoLook plus Software listed! The Arcus includes Transparency Adaptor as standard and software listed!

Scanner Model...	Price	
STUDIOSCAN - including Photoshop LE	£679	(£798)
STUDIOSCAN II - P/Shop LE & Omnipage Direct	£649	(£763)
ARCUS II - FULL Photoshop, Omnipage Direct... Inclusive of TRANSPARENCY ADAPTOR!	£2399	(£2819)



SCANNER SAVERS

GH MACPAC EXTRA MAC SCANNERS STARTING AT... **£487** (£572.23 inc. VAT)

Epson Scanners include CUSP, 1st year on-site REPLACEMENT from distributor 'Customer Satisfaction Programme'

Scanner Model...	Price	
GT 6500 - Including Photoshop LE & Omnipage	£459	(£540)
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GT 8500 - Including Photoshop LE & Omnipage	£599	(£704)
GT 8500 - Including FULL Photoshop 3.0	£789	(£928)
GT 9000 - Including Photoshop LE & Omnipage	£699	(£822)
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GENUINE UK UNITS... GH UMAX POWERLOOK SCANNERS ARE GENUINE UK SPEC. & COME WITH A BINUSCAN DEMO S/W PLUS ON-SITE WARRANTIES. LOOK OUT - GREY IMPORTS DON'T!

Scanner Model...	Price	
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VISTA S6 - Including Photoshop LE	£599	(£704)
VISTA S8 - Including Photoshop LE	£699	(£822)
VISTA UCI 1260 - Inc. FULL Photoshop	£1075	(£1264)
VISTA POWERLOOK PRO - Including FULL Photoshop	£2349	(£2761)

All listed prices are what YOU PAY, and there are NO HIDDEN EXTRAS. Prices are correct at time of going to press (Pack details may vary from time to time). Offers and Services are subject to availability and to being the latest advertised products, packs and prices. Please note goods are not supplied on a trial basis. E&OE.

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GH MACPAC EXTRA — **EPSON STYLUS COLOUR JUST... £369** (£433.58 inc. VAT)

GH have secured stocks of this exciting and revolutionary NEW HIGH QUALITY COLOUR INKJET PRINTER! Boasting an incredible 720dpi resolution max. output, the Epson Stylus Colour really IS unique! Take a look at magazine reviews to see the glowing reports about this printer. If you need THE ULTIMATE in LOW COST colour proofing devices - THIS IS THE ONE for you.

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Mono 360dpi Inkjet Printer for budget priced laser-like quality output. Includes sheet feeder.

StyleWriter II **£199** (£234)

STYLEWRITER 2400 COLOUR

Excellent 360dpi colour output. Ideal for proofs etc.

StyleWriter 2400 Colour **£382** (£449)

While Stocks Last

COLOUR STYLEWRITER PRO

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StyleWriter Pro **£389** (£458)

HP DESKWRITER INKJETS

HP320 - Mono 600 x 300dpi	**£190**	(£224)
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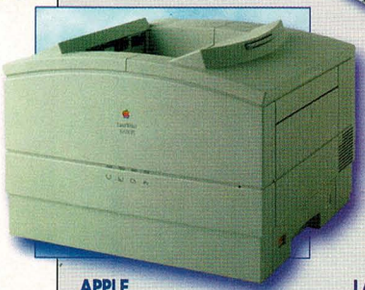
New Product



GH LASER BARGAINS

GH MACPAC EXTRA

APPLE'S OWN LASERS FROM... £429 (£504.08 inc. VAT)

APPLE LASERWRITER PRINTERS

Personal LaserWriter 300 - 300dpi, 4ppm	**£429**	(£505)
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LaserWriter Select 360 - 600dpi, 10ppm, Postscript Level 2	**£979**	(£1151)
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PRINTER CONSUMABLES

StyleWriter...		
I/II/Portable - Black Cartridge	**£16**	(£19)
2400 - Black Cartridge	**£22**	(£26)
Colour Cartridge	**£24**	(£28)
Black Ink Tank	**£6**	(£7)
Epson Stylus...		
Black Cartridge	**£17**	(£20)
Colour Cartridge	**£30**	(£35)
360dpi Paper, 200 Sheet	**£19**	(£22)
360dpi Paper, 200 Sheet	**£22**	(£26)
HP DeskWriter...		
Black Double Cap. Cart.	**£21**	(£24)
Tri Colour Cartridge	**£24**	(£28)
Toners...		
For Apple 300/320	**£51**	(£60)
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CD 300E PLUS **£189** (£223)

GH CD SAVERS

GH MACPAC EXTRA

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Plays CD ROMs, Photo CDs & Audio CDs. Plug into your Mac or DIRECT INTO your TV's SCART socket!
Supplied with SCSI cable & terminator (Powerbook cable option available)

Power CD **£125** (£147)

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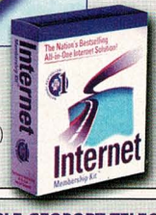

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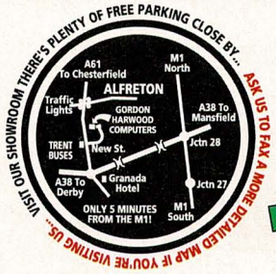

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Shareware vs Suckerware?

I've read with interest the various letters in MACFORMAT over the months concerning shareware. My experience with shareware suppliers has been very positive, especially with Ambrosia (*Easy Envelopes* and *Eclipse*) and Aladdin (*StuffIt Lite*). Both have promptly sent me what I paid for and have given me the technical support I asked for. I have happily sent postcards, $5 or $10 to authors who have provided me with a useful program – I don't find it a big deal to buy dollars at the bank! Moreover, I find that most of the goodies I'm using are *free*. Instead of complaining about shareware, we should be applauding its very existence!

Look at the other side of the coin: software suppliers. Whenever I invest in a program, there is always a bunch of cards in the box telling me to register and why. They claim I will receive advance notification of upgrades, be eligible for special prices, promotions and offers, etc. So where do I hear of the imminent release of upgrades for two of the programs I had registered for? In MACFORMAT! In fact, I have never received anything from software suppliers since I started buying their products two years ago.

To top it all off, when I recently bought the *ClarisWorks 3.0* upgrade, inside the box was a particularly minutely printed sticker offering me a 'free' upgrade to the British version of *Claris Organizer*. After getting out my magnifying glass, I discovered that 'free' meant a charge of £10. I wonder what is costing Claris so much? I have sent my sticker in and am awaiting notification of availability of my 'free' upgrade. In the meantime, hats off to shareware authors – keep up the good work!

I Fitton
Brussels, Belgium

If you're still worried about the cost of buying dollars to send to shareware authors in the US, you might like to know that it pays to shop around, especially as the holiday season nears. One large travel company (known for its traveller's cheques) is now charging not a commission but a flat fee of just £2 for foreign currency purchases. Buy a handful and be prepared!

Disk-cussion

Recent letters in MACFORMAT have complained about game demos that won't run on the humblest Macs. I find demos of 'big' new games both interesting and useful. A trial run can quite often save one from investing in a game that would not suit and thus leaves more money to spend on games that do.

However, the most interesting parts of your CD-ROM, to me, are the shareware and the excellent readers' products. I have just registered my copy of the shareware game *Realmz* (from MACFORMAT 18's CD) with the author. To show how good the game is, I should perhaps tell you that it engrosses me at the tender age of 65 and, quite amazingly, it enthralls my grandchildren, ages 7 and 5. They huddle together plotting their game tactics and strategy, quite oblivious to the world around them.

So what is my problem? Well, my copy of the game is version 1.2.2. In his acknowledgement of my registration fee, the author says the most recent version is 1.5.3. There are patches to update v1.5 up through 1.5.3 but no patches to update versions 1.3.x to 1.5.3 because of the massive amounts of new graphics and data files. You need to start with a whole new package. Would you think about putting v1.5.3 on one of your CDs please?

V C Jones
Llansilin, Shropshire

Your wish is our cliché. Realmz *version 1.5.4 was on the MACFORMAT 21 CD-ROM, and we'll keep our eyes open for further upgrades to pass on to readers. We quite like the game too (and our ages fall somewhere between the extremes you mention. More than that I can't say...). Opinions on our cover disks and CDs, and suggestions for what to include, are always welcome. Please mark your letter 'Disk-cussion'.*

Token Aussie seeks help

I am a design student in visual communication at the University of Technology, Sydney. I am researching the design of the Apple Mac user interface and its good and bad points. I am attempting a survey of users to quantify what they do and don't like. If you could assist by circulating my e-mail address to your readership, I'd be most grateful.

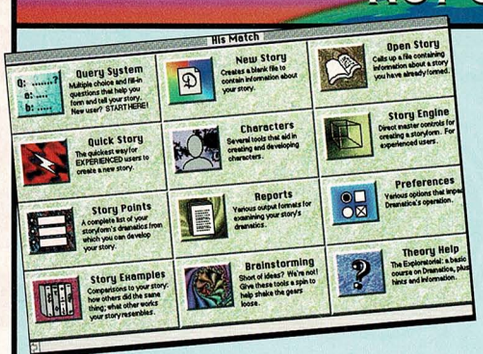
Edward Lake
University of Technology, Sydney
ealake@ghostgum.itd.uts.edu.au

And how about ideas for what Apple ought to change or include in System 8, when it finally appears? The one that annoys me is that when you duplicate a file in the Finder it is automatically given the same name with 'copy' tacked on, which is invariably not *what you want to call it. Why can't we get a dialogue box asking for a name* before *it's duplicated? Send your suggestions for System 8 to 'Get it right this time' at the usual address.*

Gratuitously amusing

I notice that you will be reviewing *The Joy of Sex* next month. I hope that you will not be portraying copulating figures in

NOT QUITE SO DRAMATICALLY GOOD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Various output formats for examining your story's dramatics.
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Various options that tailor Dramatica's operation.
Story Examples
Comparisons to your story: how others did the same thing; what other works your story resembles.
Brainstorming
Short of ideas? We're not! Give these tools a spin to help shake the gears loose.
Theory Help
The Explanations: a basic course on Dramatica, plus hints and information.

Amazing in theory but far from artistically inspiring in fact? This token Australian blames *Dramatica* for his writer's block – wrestling with the jargon left him suffering mental exhaustion!

Just a note relating to your review of the screenwriting program *Dramatica* in MACFORMAT 21. I'm a professional TV and film scriptwriter, including about 50 or more episodes of *Home and Away* (but that's another issue). Recently I lived with *Dramatica* for about three weeks. In the end I gave it back. Yes, the theory underlying the program is amazing. But the jargon... Does the phrase 'utterly eyeglazing' mean anything? Determined to make it work, I persevered... and persevered... and persevered some more, until overcome by sheer mental exhaustion. By this time I'd also lost all interest in the film script idea I was developing.

I also spent quite a lot of time showing *Dramatica* to writer colleagues. All agreed it was an amazing concept, but as soon as they confronted the jargon they ran the other way. Despite what your reviewer says, the jargon is not what writers are familiar with. It's a new jargon, an academic jargon that needs three manuals to explain. Even then, much of it remains obscure.

People who are considering buying this program should be warned of this. It will take an enormous (and extremely unintuitive) effort to master. The great pity is that it is writers who will give up on it, while those who study and analyse writing will probably find it a handy tool.

Alister Webb
Sydney, Australia

Feedback and second opinions are always welcome from users of products we review. I thought Dramatica *sounded too good to be true. Writers, beware. Academics, take note. (Or should that be 'take notes'?)*

your pages, as another Macintosh magazine has done. We have children who like to look at the magazine, and this would be very unsuitable. Simple nudity is okay (they find it funny).

So, an unpenetrating tip for this month. Your magazine is always a good read and more; the CD-ROM contains a lot of well chosen and interesting material (I liked *Superclamp*). Some extra info on the platform developments (PReP and HRP) would be useful. Keep it... er, continue the good work.

David Garner
Manchester

Knowing that the magazine is read by a very wide age range (see V C Jones's letter on these pages), we selected the pictures accompanying our review of The Joy of Sex *in* MACFORMAT *24 very carefully. The couples portrayed were just hugging. And they were all fully clothed. It's just that you couldn't see their pink body stockings very clearly because of the dim lighting. Which was the result of a power failure...*

How to get in touch with MACFORMAT

- Our address for letters is on page 36 – the shorter your letter, the better its chances of being printed. Longer letters may be published in our regular 'Soapbox' section (on page 130 this month). If you'd like a letter included in 'Readers' Corner' on our CD-ROM, make sure it contains no defamation or obscenity, then send it in as a *TeachText* document on a disk marked 'MACFORMAT Readers' Corner'. Include your name and address, and note that we can't return your disk.
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- The legal bit (not that the rest is *illegal*, you understand): all correspondence sent to our editorial address will be considered for publication unless you specifically state otherwise, and we reserve the right to edit published letters for reasons of space, clarity or legality.

In defence of Dixons

Having recently bought my Performa 630 from Dixons in Rugby, I would like to say a word in their defence. The manager made it quite clear that while he knew his way around a PC he had no idea about Macs. This was alright by me – I knew exactly what I wanted and the ex-demo model was even cheaper than it would have been after the recent price drop.

When this satisfied customer discovered that the modem port did not work, they arranged for me to check the shop's new demo machine and then swap my faulty machine for that one. Thank goodness I didn't buy it by mail order!

I returned the machine as I bought it, but with the addition of a QuickTime grab of a famous scene from *When Harry Met Sally*. The manager's reaction was:

'How did you get that?'

'I grabbed it off the TV.'

'Wow! I'm going to sell this today!'

He lamented that neither Apple nor Dixons provide the shops with a demo to play that would give customers a hint of the Mac's facilities. He pointed to a demo on a PC showing *ClarisWorks*: 'And we don't even bundle it with that machine!'

So, it's not the staff at Dixons who are to blame. Their employers should spend some time training them, and Apple could give them some demo software. Let's face it, the machines are good enough to sell themselves!

Jeremy Patton
Rugby

True, if you know them already...

Pippin is doomed

I am writing to complain about the new Apple games machine. It's all very well being technically amazing but no average game-playing teen such as myself would even remotely think of buying anything called 'Pippin'. It stands alongside 'Nissan Bluebird' in the naff name stakes.

I'm not saying Sony's 'Playstation' is well named, but at least it's got some well cool games to prop it up. Called the Pippin, the new machine is doomed to be what your parents buy you when you ask for a 3DO because 'it's got a lot of educational programs'.

Patrick Owen (age 15)
Môn, Gwynedd

Lucky that Bandai is calling its version of the new machine 'Power Player' then. It's even got 'power' in the name, and that never did anyone any harm... And speaking of naff names, imagine how well 'Gameboy' might have done with a better name! MF

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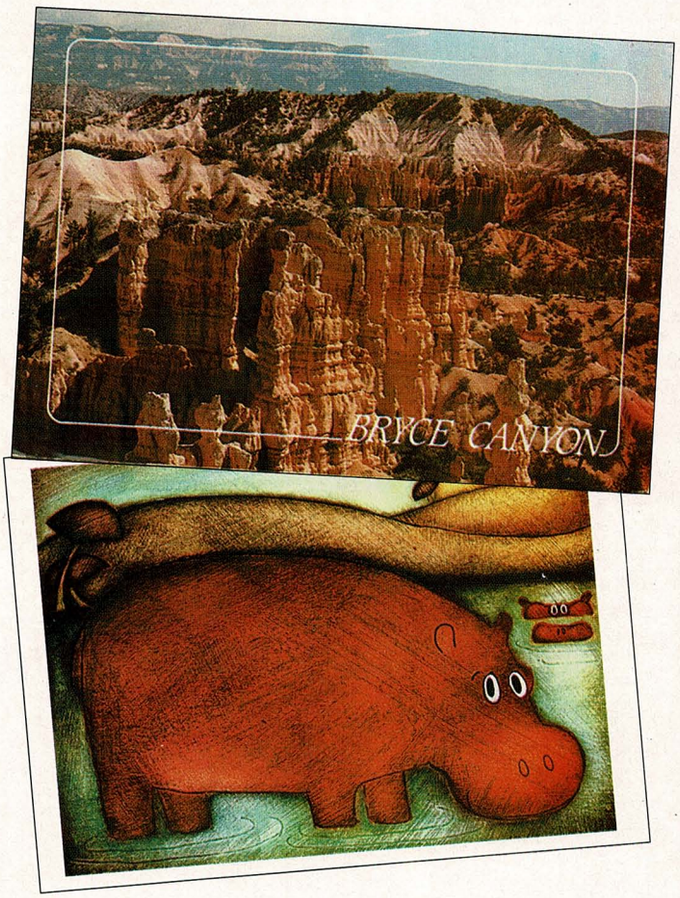
...Which all goes to show we really do read the advertisements (all too well).

Maxwell Cleworth
Blackpool

How about a guide to manufacturers' jargon? 'Entry-level' = Won't do much unless you buy more RAM; 'Industry-standard' = Requires extra adaptor; etc. Any suggestions?



More MACFORMAT binder winners: Anfossi Gérald of Nice, France, sent us a shot of the landscape that the landscape generating program *KPT Bryce* was named after; and the hippos from Susan Ronnie of Erskine, Renfrewshire, just tickled our fancy. Remember, whenever you write to MACFORMAT or enter a compo, an eyecatching postcard could win you a binder too!

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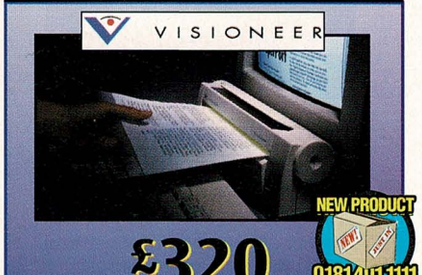

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RDCM **Radius Colour Pivot** (unique tilt system) £695.00
RD2V **Radius IntelliColour 20" Monitor** £1399.00
SN15 **Sony 15" Trinitron Monitor CPD 15SF1** £355.00
SN17B **Sony 17" Trinitron Monitor CPD 17SF1** £635.00
THGx **Thunder IV Video Cards** ..... from £1875.00

SCANNING

AFS2 **Agfa StudioScan II** (2400dpi, fast, the best) £699.00
EPSx **Epson GTX6500** (1200 dpi colourinc P'Shop & O'Page) .. £465.00
SMII **Microtek ScanMaker II** (great quality 600dpi) £349.00
COOL **Nikon CoolScan** (35mm slide scanner) £1125.00
STAX **Nikon AX1200** (fast, 1200dpi res A4 desktop scanner) .. £1095.00
PPRT **PaperPort** (mono desktop OCR and scanning) £320.00
OMPG **OmniPage 5.0** (OCR directly into applications) £245.00

MULTIMEDIA

ELAS **Elastic Reality** (seriously professional morphing) £195.00
MRP2 **Morph 2.5** (morph from one QuickTime movie to another) £79.00
MDRT **MacroMind Director 4.0** (key multimedia tool) £795.00
PRMR **Premiere 4.0** (Adobe's brilliant QuickTime editor) £399.00
TRNJ **Transjammer** (100s of transitional effects for Premiere) .. £89.00
VIDD **Video Director** (edit your home videotapes) £120.00

PC COMPATIBILITY

ACPC **Access PC 3.0** (read/write PC floppys from your Mac) £65.00
DSMT **DOS Mounter Plus** (same as above) £59.00
MLPT **MacLink Pro** (best Mac/PC link with100's translators) £110.00
SOFT **Soft PC Universal** (DOS emulation on a Mac) £75.00
SOFWN **SoftWindows** (run Windows on a Power Mac) £245.00

COMMUNICATIONS

4SIV **4Sight FaxLight** (5 user network fax system) ..... from 445.00
OSTA **ISDN Cards** (OST MacSnet) £545.00
SPR1 **Sportster FaxModem** (14,400 baud, BABT approved) £155.00
SPR3 **Sportster FaxModem** (28,800 baud, BABT approved) £239.00
SPRC **Supra FaxModem** (top quality, lowest priced 14.4 baud) .. £95.00
SPRA **Supra FaxModem** (top quality, lowest priced 28.8 baud) .. £215.00
MICL **Personal Microphone** (low cost but powerful comms) £45.00
STCH **Snatcher** (easy to use Internet file transfer software) £35.00
TLGD **TelePort Gold II** (14.4 modem from Global Village) £135.00

POWERBOOK

CPU **CPU** (excellent collection of PowerBook utilities) £49.00
CPCC **Car Power Adaptor** (plug in to the lighter) £49.00
INSY **Inline Sync** (syncs files between PowerBook & Mac) £55.00
ROAD **On The Road** (automatic deferred printing & faxing for P.B.s) .. £79.00
CCPx **PowerBook Carry Case** (Apple or third party) ..... from £19.00
PWPx **PowerPort** (Global Village internal fax modems) .... from £99.00
WIZP **WizTools PowerBook** (excellent suite of utilities) £55.00

NETWORKING

RWY5 **RunShare** (up to 5 times quicker file transfer) ... five user £499.00
ANET **Anet** (LocalTalk (AppleTalk) connector boxes) £14.00
FLTK **MNet** (PhoneNet connector boxes) £12.00
QKML **QuickMail 3.0 10 User** (powerful flexible E-Mail) £369.00
TMBK **Timbuktu Pro** (control Mac/PC screens over network) £110.00
ASPR **AsantePrint** (Ethernet to AppleTalk printer router) £275.00
ETWx **EtherWave** (daisychain Ethernet from Farallon) £165.00
Ethernet Cards (Asante, Shiva, Focus) ..... from £69.00
Ethernet Tranceivers (Asante, Shiva, Focus) ..... from £36.00

HARDWARE

INPUT DEVICES

KBCE **Extended Keyboard** (15 function keys, numeric pad) £59.00
MHWR **MacHandwriter** (character recognition A4 tablet) ... from £265.00
MSAD **Optical Mouse** (no ball to get dirty and stick!) £69.00
QCKC **QuickCam** (mono video camera for QuickTime) £115.00
AGMP **QuePad** (perfect for most arcade type games) £39.00
AGMS **QueStick II** (joystick for the control you've always wanted) .£59.00
TMADD **Thinking Mouse** (4 button with software) £69.00
TMADB **Turbo Mouse** (top selling trackball) £79.00
WCART **Wacom ArtPad** (handy stylus and tablet) £145.00
WCA4 **Wacom A4 UD1212** (professional) £395.00

ACCELERATORS,CHIPS and BOARDS

PWL3 **Daystar Turbo 040** (68040, faster than a Quadra) .. from £545.00
PP66 **Daystar Power Pro** (PowerPC accelerators) ..... from £1295.00
CPLx **Math Co-Processor** (speed up your Classic II or LC) £39.00
VR256 **256K VRAM Chips** (adds more colours) £20.00
VR512 **512K VRAM Chips** (adds more colours) £29.00

ACCESSORIES

Cables (we have a wide range - please ring) ..... call
TNxx **Toners/Ink Cartridges** (for laser & inkjet printers) ..... call
FLPx **Floppy Disks** (pre formatted) ..... from £0.55
MSMT **Mouse Mat, Wrist Rest, Dust Covers** ..... from £5.00
AGxx **Anti Glare Screens** (eases eyestrain) ..... from £35.00
SESY **Security Systems** (is your Mac vulnerable to theft?) .. from £29.00

PROGRAMMING

FNTR **Frontier** (first Finder level scripting system for the Mac) .. £295.00
HYPC **HyperCard 2.2** (new version, more power) £95.00
CDWB **Metrowerks Code Warrior Bronze** (680x0 compiler) £65.00
CDWG **Metrowerks Code Warrior Gold** (PowerMac compiler) £275.00
ZCP **Symantec C++** (best object oriented programming tool) .. £279.00
SPCD **SuperCard 2.0** (more powerful than HyperCard) £299.00
THKC **Think C 6.0** (the leading Mac app development tool) ... £159.00
THKP **Think Pascal 4.0** (excellent developer level compiler) £139.00
FTBS **FutureBasic** (far and away the best Basic for Mac) £79.00

EDUCATION

UP TO 12 YEARS

FNAR **Fine Artist** (great fun paint program) £35.00
KDDK **Kid Desk** (desktop for kids, protects your own data) £29.00
KDTM **KidsTime** (5 learning programs for the 3 to 7 year old) ... £29.00
KDMH **KidsMath** (takes kids from counting to arithmetic) £29.00

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KDPX	**KidPix II** (wonderful paint program with sound effects)	£34.00
LPCK	**Launch Pad** (animated desktop, secures your files)	£35.00
NMBM	**NumberMaze** (award winning arithmetic tutor)	£39.00
PPAN	**Peter Pan** (the eternal favourite)	£27.00
RDMZ	**ReadingMaze** (letter recognition to sentences)	£35.00
SPLX	**Spelunx** (brilliant game-like learning environment)	£29.00
STBW	**Storybook Weaver** (build your own stories)	£23.00
GASE	**Swamp Gas Europe** (geography learning game)	£25.00
YTLP	**Yearn to Learn: Peanuts** (basic learning skills)	£37.00
YTLS	**Yearn to Learn: Snoopy** (5-9 age group learning skills)	£39.00
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VSNS	**Visions** (detailed astrological horoscopes and charts)	£29.00
CRWR	**Creative Writer** (DTP for kids)	£35.00
ETHT	**EarthQuest** (a new type of multi curricular learning)	£34.00
MGLB	**MacGlobe** (complete world info, maps. Essential)	£39.00
DCFM	**Decimals & Fractions Maze** (helps older kids)	£35.00
TYEN	**Typing Instructor** (good training from basics to touch)	£25.00
VYGR	**Voyager Astronomy** (fascinating desktop planetarium)	£105.00
WIWD	**Where in World is Carmen DeLuxe** (geography based)	£49.00

Special low Education prices are available on some products, including Microsoft, Claris and others, to authorized educational establishments with Educational Purchase Orders.

CD ROM

GENERAL/GAMES

CDRT	**CD ROM Toolkit** (speeds up CD access)	£59.00
7GCD	**7th Guest** (an incredible real time 3D adventure)	£35.00
HRDN	**A Hard Day's Night** (The Beatles Movie on CD)	£29.00
ALCD	**Ancient Lands** (multimedia history)	£39.00
BTCHC	**Battle Chess** (full colour animated Chess Game)	£35.00
B9CD	**Beethovens 9th** (the symphony and all about it)	£65.00
BMUG	**BMUG** (huge collection of public domain and shareware)	£29.00
JUMP	**David Bowie - Jump** (pop culture goes interactive)	£29.00
GTKCD	**Ferrari GP, Fokker Triplane, P51 Mustang Bundle**	£29.00
GODCD	**How God Makes God** (ingeneous spiritual guide)	£25.00
IRNB	**Iron Helix & Dark Seed (fantastic space/adventure bundle)**	£25.00
LYKC	**Legend of Kyrandia** (journey through magical lands)	£29.00
MYST	**MYST** (magical mystery adventure)	£35.00
PRNCD	**"Prince"** (music and multimedia from the great one)	£35.00
RTTZ	**Return to Zork** (multimedia adventure game)	£35.00
RBAS	**Rebel Assault** (Star Wars like game - brilliant)	£35.00
GNGB	**Resident's Gingerbread Man (weird, but 5 mouse rated)**	£29.00
THMP	**Theme Park** (create the best theme park ever!!)	£34.00
SPTCD	**This is Spinal Tap (the movie and more on 2 CDs)**	£25.00
EXPL	**Xplora** (Peter Gabriel's amazing multimedia CD)	£29.00

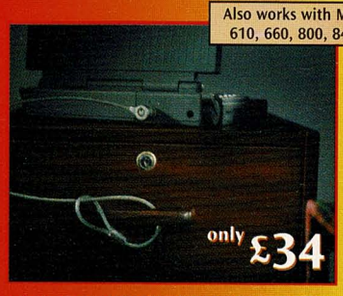
EDUCATIONAL

ARTT	**Arthurs's Teacher Trouble** (interactive story book)	£29.00
ARTB	**Arthurs's Birthday** (more Arthur)	£35.00
DINO	**Dinosaurs** (the "must have" CD of the year)	£45.00
GRME	**Grandma and Me** (delightful kids story)	£29.00
HHHS	**Harry and the Haunted House** (the new best seller)	£34.00
KDPCD	**KidPix Studio** (KidPix plus animation)	£35.00
LFCD	**Learn to Speak French** (aah... learn to speak French)	£115.00
MWCD	**Math Workshop** (math tutoring 5-12 age group)	£34.00
PTWL	**Peter and the Wolf** (interactive fairy tale)	£29.00
RUFF	**Ruff's Bone** (adventures with Ruff the dog)	£35.00
TRTH	**Tortoise and the Hare** (well....)	£29.00
JMAN	**The Journeyman Project** (amazing 3D adventure)	£32.00
THUM	**Thumbelina** (interactive fairy tale)	£29.00
WLJCD	**Wallobee Jack/Lost Leonardo (interactive kids cartoon)**	£19.00

REFERENCE

3DAT	**3D Atlas** (simply wonderful)	£49.00
MAGCD	**Art Gallery** (Microsoft's tour of the National)	£39.00
BKSCD	**Book Shelf** (superb CD ROM for everyday reference needs)	£75.00
CINI	**Cinemania 95** (19000 movie reviews and more)	£39.00
DSTCD	**Distant Suns** (astronomy based CD)	£65.00
DCLW	**Dictionary of the Living World** (award winning)	£29.00
NCRT	**Encarta 95 (fantastic multimedia encyclopedia)**	£75.00
GRLCD	**Groliers Encylopaedia 95** (21 volumes, 9 million words!)	£89.00
HLWCD	**Halliwells** (the famous film encyclopaedia on CD)	£25.00
HCWCD	**How Computers Work** (excellent guide to technology)	£40.00
JPTR	**Jupiter (photos of the comet impact)**	£15.00
MCBT	**Macbeth** (the Scottish Play)	£65.00

KENSINGTON SECURITY



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MICD	**Musical Instruments** (Microsoft's excellent entry)	£39.00
OEDCD	**Oxford English Dictionary** (the whole thing on CD ROM)	£425.00
REDCD	**Red Shift** (superb astronomy program)	£49.00
SHCD	**Shakespeare Complete Works** (at your fingertips)	£19.00
SBPCD	**Small Blue Planet** (pictures, geography of the planet)	£49.00
STTM	**Star Trek Interactive Tech Manual** (tour de Enterprise)	£29.00
TLFA	**Time/Life Astrology** (astrology primer)	£19.00
WRPA	**Warplanes** (an interactive history)	£45.00
WBYCD	**Wild Blue Yonder** (US fighter planes, stunning)	£35.00

MUSIC

BMTL	**EZ Starter Kit** (MIDI interface, EZ Vision, book)	£175.00
PRMC	**Practica Musica** (teaches music theory and ear training)	£75.00
SONG	**SongWorks** (interactive music composition)	£65.00
STDI	**Super Studio Session** (8 voice composer and player)	£69.00
MDIN	**MIDI Interface**	£59.00

UTILITIES & DA's

PRODUCTIVITY ENHANCERS, FILE & DISK MANAGEMENT

EASE	**At Ease** (secure Finder replacement)	£35.00
CNCT	**Conflict Catcher II** (INIT manager and more)	£49.00
CDU	**CDU** (excellent collection of Desktop utilities)	£49.00
NDBP	**DiskDoubler Pro** (DiskDoubler,AutoDoubler,CopyDoubler)	£59.00
EXPO	**Exposure Pro** (screen dump utility with paint tools)	£82.00
FTF	**First Things First** (alarms, reminders, to do's)	£45.00
HDTKP	**Hard Disk Toolkit** (Personal Edition)	£59.00
HDTK	**Hard Disk Toolkit** (the best formatter and checker)	£125.00
INPK	**InitPicker 3.0** (choose to use or disable your startup Inits)	£39.00
MCTA	**MacTools Pro 4.0** (disk safety and protection utility)	£79.00
NUTD	**Now Up-To-Date** (calendar and reminder system)	£65.00
NUM	**Norton Utilities 3.1** (best selling utilities package)	£79.00
NOWU	**Now Utilities 5.0** (suite of essential utilities)	£65.00
POPF	**PopUpFolder** (view folder contents with submenus)	£30.00
QCKY	**QuicKeys 3.1** (macro maker, time saver utility)	£85.00
QCDX	**QuickDex II** (lightning fast DA database, essential)	£32.00
RAMD	**RAMDoubler** (actually doubles your available RAM!)	£55.00
SFDL	**Stuffit DeLuxe** (famous file compression program)	£59.00
SUIT	**Suitcase 2.14** (manage your font menus)	£45.00
WNWT	**WindoWatch** (logs time usage of windows)	£85.00

SECURITY

DKGD	**DiskGuard** (control access to your hard drive)	£69.00
EMPW1	**Empower I** (file & data security)	£120.00
FLGD	**FileGuard** (serious protection for specific files)	£145.00
MPR1	**MacPrefect** (secures most aspects of the Finder)	£30.00

SCREEN SAVERS

AFDK	**After Dark 3.0** (famous screen saver with many modules)	£25.00
DSNY	**Disney Screen Saver** (simply magical)	£27.00
STAB	**Ultimate Star Trek** (screen saver and posters bundle)	£39.00
FARS	**The Far Side** (Larson at his best)	£29.00
FLTS	**The Flintstones** (cartoon, movie and now...)	£19.00
SMSN	**The Simpsons** (irreverent humour)	£29.00
DRTY	**Underware** (humorous screen saver)	£25.00

BACKUP & VIRUS PROTECTION

OPDT	**DeskTape** (treats DAT as if it were a 2Gb drive)	£249.00
PRSB	**Personal Backup** (best value backup on the market)	£35.00
REDX	**Redux Deluxe 2.51** (powerful floppy backup)	£49.00
RTSP	**Retrospect 2.1i** (most sophisticated archival backup) from	£145.00
SAM	**SAM 4.0** (Symantec's anti virus utility)	£49.00
VIRX	**Virex 5.0** (best virus tracer & eradicator of all)	£59.00

ENTERTAINMENT

ARCADE

MBSL	✔**Best Sellers Pack** (Hellcats, Spectre, SuperTetris)	£32.00
CRQ2	✔**Crystal Quest 2** (Britain's favourite game)	£22.00
CRYC	✔**Crystal Crazy** (sequel to Britain's favourite game)	£34.00
DLVR	✔**Deliverance** (hack and slash)	£29.00
FOTF	➢**Fury of the Furries** (Nintendo style platform game)	£25.00
LEM3	✔**Lemmings/Oh No! More Lemmings Bundle**	£22.00
MRTH	➢**Marathon** (prepare to meet thy "Doom")	£39.00
PGLG	➢**PegLeg** (totally addictive invaders style game)	£23.00
PROP2	✔**Prince of Persia II** (more and better, can you resist?)	£29.00
SNOV	➢**Sensory Overload** ("Doom" for the Mac)	£35.00

SIMULATIONS

CVLN	✔**Civilisation** (create your own)	£29.00
CYAC	➢**Chuck Yeager's Air Combat** (fly with Chuck)	£34.00
CRBL	✔**Crystal Caliburn** (classic pinball game)	£32.00
F18H	➢**F/A18 Hornet** (from the creator$ of Hellcats)	£49.00
F18K	➢**Korean Crisis** (mission disk for F/A18)	£32.00
FLYN	➢**Flying Nightmares** (strategy and flight sim in one)	£22.00
FLSM	✔**Microsoft Flight Simulator** (serious, realistic, accurate)	£35.00
OOTS	➢**Out of the Sun** (dogfight in three WWII battles)	£22.00
PWDK	✔**Pathways into Darkness** (kill the evil maze monsters)	£39.00
PGAG2	✔**PGA Golf II** (far and away the best Golf game)	£29.00
PLPG	✔**Links Pro Golf** (so realistic you'll think you're there!!)	£34.00
PPL2	✔**Populous II** (want to play God?)	£29.00
PWMG	✔**Powermonger** (can you rule the world?)	£29.00
SIMC2	✔**Sim City 2000** (design and run your own city)	£29.00
SIMT	✔**Sim Tower** (control and manage a tower block)	£29.00
SYND	✔**Syndicate/Populous I** (control the world)	£34.00
SIMC	✔**Sim Classics** (Sim Life, Ant and City in one bundle)	£29.00
THME	✔**Theme Park** (create the best theme park ever!!)	£34.00

ADVENTURES

BBII	✔**Battle of Britain** (what can one say)	£37.00
LTIF	✔**Lost Treasures of Infocom** (bargain adventure bundle)	£22.00

BOARD/CARD GAMES

BTCH	✔**Battle Chess** (animated and powerful game)	£25.00

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CAPACITY	APPLE	D2	JET	INTRNL
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730Mb			£295	£215
1000Mb	£645	£615	£499	£425
1400Mb				£625
2000Mb		£999	£945	£845

128Mb Optical Drive	£545.00
230Mb Optical Drive	£715.00
D2 88Mb Syquest Drive	£265.00
D2 200Mb Syquest Drive	£399.00
2Gb DAT Drive	£865.00
44Mb Syquest Cartridge	£32.00
88Mb Syquest Cartridge	£36.00
200Mb Syquest Cartridge	£55.00
128Mb Optical Cartridge	£25.00
230Mb Optical Cartridge	£35.00

BRDG	✔**Bridge** (from novice to advanced playing levels)	£24.00
CHCH	✔**Chess Champion** (best Chess game)	£25.00
ERIC	✔**Eric's Ultimate Solitaire** (a dozen patience games)	£35.00
PWPK	✔**Power Poker** (dozens of games)	£29.00
SHNG	✔**Shanghai II** (great graphics, addictive brain teaser)	£17.00

KEY ✔ works on most Macs, ➢ Colour Macs only.

Please check whether your chosen game is compatible with your Mac when ordering.

BOOKS & TRAINING

Top 25 best-selling books

BK5010	Internet Starter Kit Mac (Book/Disk)	£27.50
BK6035	Quark Xpress Book 4th Ed.(Peachpit)	£29.99
BK4075	Mac Bible 5th Edition (Book)	£29.95
BK4055	Little Mac Book 3rd Ed. (Peachpit)	£14.99
BK5005	Internet Tour Guide Mac (Ventana/Book)	£26.40
BK2015	Photoshop Wow Book	£31.61
BK2180	Macworld Photoshop V3.0 Bible	£38.99
BK1195	Tao Of Applescript	£23.35
BK3005	Using Filemaker Pro (Book/Que)	£25.95
BK1185	Resedit 2 Complete (Book)	£28.95
BK1025	Complete Hypercard 2.2 4ed.(Random)	£32.50
BK1020	Complete Applescript Handbook	£37.65
BK4025	Macworld Networking Handbook (Idg Books)	£27.99
BK5015	Internet Yellow Pages (Osborne/Mcgraw)	£21.95
BK4145	Macworld System 7.5 Bible 3rd Ed. (Book)	£27.99
BK2085	Pagemaker 5.0 For The Mac (Book)	£22.95
BK3105	Using Word 6.0 For The Mac	£27.49
BK6020	Quark Xpress 3.3 Bible (Idg Books)	£36.99
BK4140	Little System 7.5 (Book)	£13.95
BK3035	Word 6.0 Mac Made Easy (Book)	£14.95
BK5025	E World Guide (Book/Disk)	327.50
BK3085	Excel 5 Starter Kit Mac (Book & Disk)	£22.95
BK2215	Illustrator 5.0/5.5 Book	£29.95
BK2205	Using Photoshop V3.0 (The Reference)	£36.99
BK2210	Great Photoshop V3.0 Techniques	£35.99

TRAINING

Personal Training ....4 to 6 modules per app, ...each module £49.00 (audio cassette application training for:
New Mac Users: System 7.5, PageMaker 5.0, Quark Xpress 3.3, Microsoft Works, Microsoft Word 6.0, Microsoft Excel 5.0, Persuasion, Illustrator, FreeHand, FileMaker Pro and Claris Works)
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NOMAI CARTRIDGES

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PERFORMA BUNDLES

475P **Performa 475Plus 4/250** & Performa Display & keyboard, ClarisWorks 2.1, PC Exchange, Typing Teacher, Clip Art collections, Spectre, Home Publisher, TouchBase, DateBook. £795.00

630D **Performa 630 4/250** & Performa Display & keyboard, ClarisWorks 2.1, PC Exchange £925.00

630E **Performa 630Plus 8/250 CD & 15" Multiple Scan Display** & keyboard, PC Exchange, ClarisWorks 2.1, Typing Teacher, Clip Art collections, Spectre, Groliers, Dinosaurs and three other CD ROMS £1099.00

630P **Performa 630Plus 8/350 CD TV/Video & 15" Multiple Scan Display** & keyboard, PC Exchange, ClarisWorks 2.1, Typing Teacher, Clip Art collections, Spectre Supreme, Groliers, Microsoft Dinosaurs and three other CD ROMS. £1299.00

PERFORMA CPUs

475A Performa 475 4/250 . . . . . £655.00
475B Performa 475 8/250 . . . . . £735.00
630A Performa 630 4/250 . . . . . £815.00
630B Performa 630 8/250/CD £945.00
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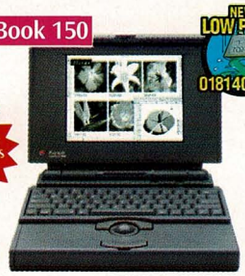

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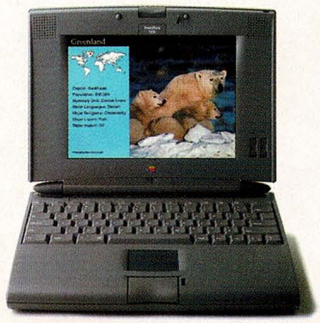

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MAX POWER!

PowerMacs are the way of the future and offer you incredible performance at an ever more affordable price. Cliff Joseph and Philip Jones show you how to join the PowerMac revolution.

They're the fastest, most powerful desktop computers ever made, by anyone. Even the entry-level models offer more sheer computing power than the top-of-the-range Macs of just a few years ago, with CD-ROM drives and 500Mb hard disks as standard. No wonder they call them Power Macs. And best of all, they are more and more affordable, now starting at under £1,400 – or you can upgrade your existing Mac from just £550.

It's an unbeatable combination: stunning speed and performance which were beyond imagination only a couple of years ago, at prices you could only have dreamed about just a year ago, when the first Power Macintoshes were introduced.

Apple is now fully dedicated to moving its entire range over to PowerMac, and there are only a few remaining Mac models that still use the Motorola 68000 series of chips (known as 680x0 or '68K'). With the introduction of the newest 'Power Performas' (see this issue's News pages), the future is here, and now is the time to ask yourself where you want to be.

Make no mistake, the 680x0 Macs are fine machines, and there's plenty of useful life left in them yet. With all these new models at ever-better prices, 680x0 Macs may be losing value faster than your neighbour's Skoda coupé with the 'mustard' paint scheme, but if you've bought a Mac you've still got a Mercedes among desktop computers. But once you see what the PowerMacs can do, you'll want to save your pennies for an upgrade to PowerPC rather than just buy some more memory for your old Mac. So whether you're thinking of buying a new Mac, anxious to future-proof your investment, or just curious about these new machines, you'll want to know all about the power they can give you.

Over the next 12 pages we'll give you the complete picture about PowerMacs. First we'll celebrate their first anniversary by looking at the amazing story behind Power Macintosh – how it came to be, what makes it so hot, and for that matter just how hot it really is. Then, starting on page 43, we detail the entire PowerMac range as it stands at the moment – what the differences are between the various models, what they can do, which ones are the best buys for you.

Then on page 48 we investigate how you could upgrade your older Mac to PowerPC. What are the options for your particular model? What are the advantages, and is the cost worth it for you or

The Performa 5200 has a built-in 15-inch multi-scan monitor and quad-speed CD-ROM for under £1,500!

POWERPC

The brand name of a range of RISC computer chips used in the Power Macintosh range. It does not mean the chip is related to PC-compatible computers, or that Power PC-based Macs can run IBM-compatible PC programs without extra help.

68000 SERIES

A range of processor chips, including the 68000, 68020, 68030 and 68040 processor, which were used in the original Mac range. Also known as the 680x0 series.

should you just buy a new machine? And finally, on page 51 we look forward to what's coming for the Power Macintosh. Will the new machines prove as revolutionary as the first Macs of a decade ago? What will they have to offer?

So read on, and learn how you could get the power!

The RISC Factor

The remarkable speed of PowerMacs comes out of a intriguing collaboration. Apple and Motorola, who produced the 680x0 chips, joined in partnership with IBM – the manufacturer of Apple's main rival, the PC-compatible! The result was the PowerPC chip, and its speed came from new RISC technology.

Apple's problem lay in the fact that PowerPC processors are fundamentally different from the 680x0 series of processors that it had been using since the very first Mac was launched back in 1984.

There are many differences between the two types of processor, but two of the main differences lie in the clock speed and instruction set.

A processor's clock speed can be compared to the number of revs you can get out of a car engine, except that a computer's speed is measured in cycles. One million cycles per second is known as a megahertz (MHz), so a processor with a clock speed of 60MHz performs 60 million cycles every second. Even the fastest 680x0 Mac (the Quadra 840) only runs at

The new PowerMac 6100/66 delivers much greater performance than the first 6100, for the same price.

40MHz, but the PowerPC 601 processor that Apple is now using starts at 60MHz and goes up to 110MHz.

If you want to know the clock speed of a particular PowerMac, just look at the numbers in its name. The first number refers to the general product line, while the second tells you the clock speed of that particular model in the line. So, when Apple announced a new PowerMac called the 6100/66, you could tell straight away that it was one of the slim-line 6100 models, with a clock speed of 66MHz.

Clock speed isn't the only factor that affects a processor's performance, though. When a program such as *Photoshop* sends instructions to your Mac's CPU (central processor unit) it takes a certain number of cycles to process those instructions. The more complex the instruction, the more cycles it takes.

This is the most important difference between the PowerPC and 680x0 series. The 680x0 processors are based on a technology known as CISC (complex instruction set computing). CISC processors are designed to handle a wide range of complex instructions, and because of this complexity it can often take the CPU several cycles to process them.

PowerPC processors, in contrast, use RISC technology (reduced instruction set

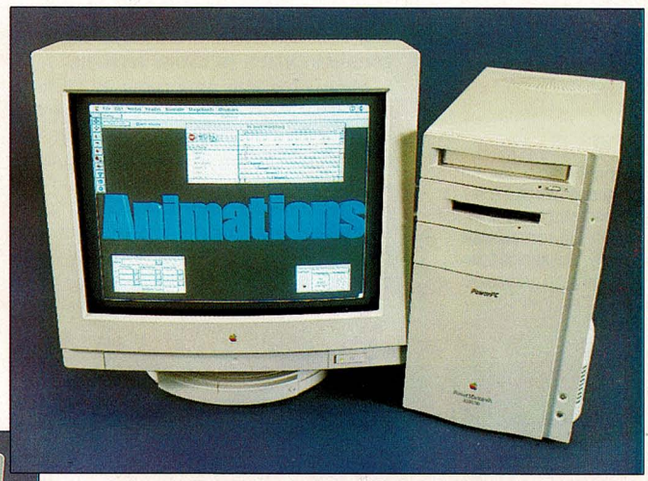
Apple's mid-range PowerMac 7100/80 delivers impressive speed and has plenty of room inside for any future expansion or upgrade.

computing). This means they use a smaller range of instructions than a CISC processor, and the instructions themselves are simpler. This enables the processor to handle the instructions much more quickly, and a PowerPC processor can manage as many as three instructions per cycle.

Sometimes it may be necessary to use a number of RISC instructions to produce the equivalent of a more complex CISC instruction, but this doesn't happen often enough to slow the RISC processor down significantly. The end result is a lean, mean computer chip faster than anything Apple has ever had before.

Another advantage with the PowerPC chip is that it has an integrated floating point unit or FPU, running at incredible speed. An FPU (or maths co-processor) is a specialised chip component that speeds up complex mathematical calculations. This makes PowerMacs very suitable for maths intensive tasks such as ray tracing and other high-end graphics work.

However, while RISC computing put the Power into the PowerMacs, it also caused a problem. A computer is useless without software to run on it, but because RISC and CISC processors use different instruction sets software written for one type of processor won't normally run on the other type. This meant software developers would have to rewrite their programs for the new processor. This would be worth it in the long run, because applications written specifically for the PowerPC processor (known as 'native' applications) would be faster than the original 680x0 versions.



The top of the line PowerMac 8100 series offers previously unheard of speed, but with a hefty price tag.

Aware of the potential disaster it faced if native software didn't arrive straight away, Apple built an emulator into the PowerMacs. The emulator is a program that can recognise instructions written for 680x0 processors and translate these into the equivalent PowerPC instructions. This enables PowerMacs to run software written for ordinary 680x0 Macs.

The translation process slows the PowerMac down so you don't get the full benefit of the PowerPC processor, but the sheer speed of the PowerPC makes up for some of the loss. The performance you get using emulation depends on a lot of factors, but it typically lies around the Quadra 630 mark, which is more than adequate for many day-to-day tasks such as word processing and spreadsheet work.

There's little doubt that this emulation ability helped ensure the success of the PowerMacs. People could buy PowerMacs and wait for native software to arrive, knowing they could still run their existing Mac software in the meantime.

After a few worrying months in which relatively little PowerMac software was

Continued on next page

POWERPC 601

The processor chip used in the Power Macintosh 6100, 7100 and 8100 ranges. Other PowerPC chips in development include the PowerPC 604 and 620.

RISC

Reduced Instruction Set Computing. A method of chip design that boosts performance by eliminating complex (CISC) instructions and using a limited number of simple instructions.

CISC

Complex Instruction Set Computing. A method of chip design that enables the chip to handle a wide range of complex programming instructions.

PDS
Processor Direct Slot. An expansion slot on the Mac's motherboard that allows add-on cards to communicate directly, and at high speed, with the main processor.

AV CARD
Audio-Visual card. An expansion card which plugs into the Mac's processor direct slot, giving it an enhanced video display and video input and output.

produced, the trickle turned into a flood and now just about every major Mac program is available in native versions.

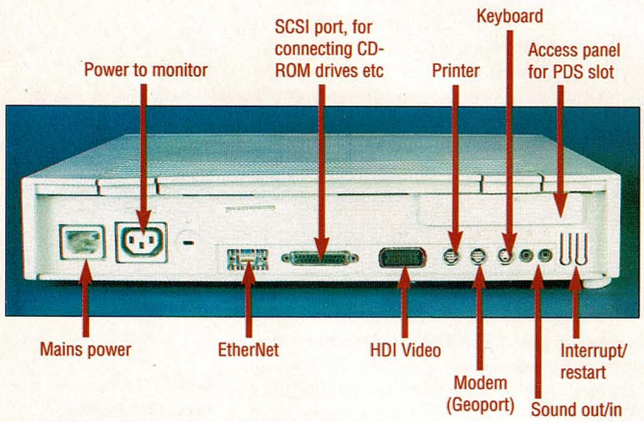
Many programs now come in 'fat binary' format with both Mac and PowerMac versions of the software, so you can choose which to install. Unfortunately some companies charge between a few pounds and over £100 (like *Quark*) for an upgrade to the native version. But why not use your current Mac software under emulation until you're ready to buy?

The Shape of Macs to Come

None of these details alter the fact that the PowerMacs have lived up to their pre-launch hype. Apple set itself the ambitious target of selling one million PowerMacs in the year following their launch, and now that the year is out we can see that Apple's pulled it off with style.

Apple actually sold round 1,200,000 PowerMacs in that year, and PowerPC has been firmly established as the basis for Apple's future. The second generation of PowerMacs has already been launched, and with the even faster PowerPC 604 on schedule for this summer, it looks like the best of the PowerMacs is yet to come.

WHAT THOSE PORTS DO ON A POWERMAC 6100



NATIVE VS EMULATION

To get some idea of how fast the PowerPC emulator runs, we timed a Power Macintosh 6100/66 performing a 90-degree rotation on a 5Mb TIFF file, using the native PowerMac version of *Photoshop 3.0*. Then we repeated the test with the same PowerMac running the ordinary 680x0 version of *Photoshop 3.0*. We also ran the test on a Quadra 630, to indicate the speed difference between running a program under emulation on a PowerMac and on a standard 680x0 series Mac. Under emulation it ran at half the speed, but it's still faster that the Quadra 630.

System

6100/66 and native *Photoshop*
Time 30 seconds

6100/66 and 680x0 *Photoshop*
Time 60 seconds

Quadra 630 and 680x0 *Photoshop*
Time 87 seconds

POWERMAC BENCHMARKS

Some tasks, such as opening applications or files stored on hard disk, will show little improvement with a PowerMac. The limiting factor here is the speed of the hard disk – no matter how fast the Mac's processor might be, the hard disk can only send data to the processor at a certain speed.

But once the data has been transferred into the Mac's RAM, the speed of the PowerMacs really starts to show. To demonstrate the relative speeds of PowerMacs, we measured the time taken by some of the current models to apply a Gaussian Blur *Photoshop* filter to a large graphics file.

All Macs on test had 16Mb RAM, and used the appropriate Mac or PowerMac version of *Photoshop 3.0*. The tests showed that while the 8100 offers the best speed, the 7100 and 6100 are not far behind and are therefore very good value.

System

PowerMac 8100/110
Time 27.22 seconds

PowerMac 8100/100
Time 31.00 seconds

PowerMac 7100/80
Time 37.00 seconds

PowerMac 6100/66
Time 41.50 seconds

Quadra 630
Time 134.50 seconds

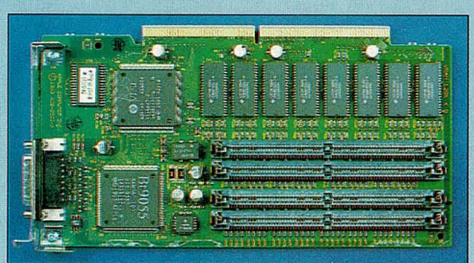
HOW POWERMACS MONITOR THE SITUATION

Macs have two types of RAM (Random Access Memory). The first is standard RAM, which is used to run programs. The second is video RAM (VRAM), which drives your monitor. The more VRAM you have, the larger the monitor you can use, and the more colours you can display.

Standard Macs have some of both types of memory on their motherboards, as well as empty slots to add more. While they still have standard RAM, PowerMacs have no VRAM on the motherboard – and no empty slots to add any – but use a different approach instead.

All PowerMacs (excluding the Performa 6200) come with a new type of monitor port called the HDI-45. An adaptor is supplied with the 6100 to connect to the standard monitor cable. Instead of using video RAM, the HDI-45 uses a portion of the Mac's standard RAM (known as Dynamic RAM or DRAM). DRAM is normally slower than VRAM, but the way it's been designed on the PowerMacs seems more efficient than usual, and the machine's video performance is pretty good when compared to VRAM.

This is the only monitor port that comes with the 6100, and the only way to attach a second monitor – or display more colours on your current monitor – is to fit an AV card that has 2Mb of VRAM. This card has the standard monitor port, as well as a variety of other video in and out ports to attach video recorders, camcorders and other devices.



This video card from a 7100 shows 1Mb of VRAM soldered on the card (top right) and the slots to add more (bottom right).

Both the 7100 and 8100 come with a second monitor port, courtesy of one of two PDS cards that come pre-fitted. This means that while these machines do have a PDS slot, it is always used – although you could remove the card of course.

With either machine, you can choose between a standard video card (with just a monitor port) or an AV card. The video card for the 7100 comes with 1Mb of VRAM (which is expandable to 2Mb), while the 8100's card has 2Mb (expandable to 4Mb). The AV cards for both machines have 2Mb of VRAM, which is not expandable.

When you buy a 7100 or 8100, remember to request either the standard video card or the AV card (which costs about £150 more).

Using the DRAM video port on any PowerMac will cause the System software to use an extra 1Mb of RAM, which is a good reason to have at least 16Mb for the 6100.

The PowerMac range

The PowerMacs have only been around for about a year but it's already getting tricky to keep track of all the different models. The original 6100/60, 7100/66 and 8100/80 models are already gone and have been replaced by newer, even faster models – and now there are Power Performas offering all that power, but at an affordable price.

Here's a full run-down on the Power Macintosh range as it stands right now. See the table on page 47 for a summary of what they offer. It's going to be a busy summer, though, with new high-end Macs appearing. By the end of the year we should see the first non-Apple PowerMacs. Many of these will be very specialised, but there will be new entry-level PowerMacs too, meaning greater choice and maybe even lower prices!

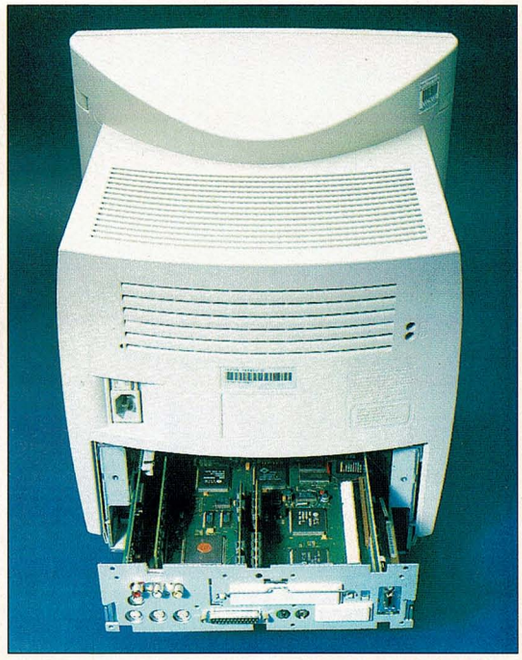
Performa 5200 and 6200

We've been expecting PowerMac Performas for some time, but assumed that they would be rebadged PowerMacs, just as the Performa 630 was a rebadged LC630. Instead Apple has produced two distinctive new Performa models.

Whereas all other PowerMacs use the PowerPC 601 chip, these use the 603 chip which was originally designed for PowerMac PowerBooks. They were rejected for that purpose because they were too slow, and so Motorola is designing a faster 603 chip for the PowerBook.

However, by increasing the clock speed to 75MHz and adding a 256K cache (see the 'cache' box on page 44), Apple has made these Macs run at about 6100/60 speeds, which is fine for their intended market of home users. The 6200 uses the same casing as the Performa 630 and is very similar internally. This means that it can take the range of cards designed for the 630, including the new TV Tuner. At around £1,400, it is about the same price as a 6100/66, although you get a keyboard, monitor and a quad-speed CD-ROM drive – as well as some useful software – making it a very attractive price.

The 5200 has Apple's quad speed CD-ROM, unlike the American LC5200, which only has a double speed.



Around the back, the 5200 has exactly the same pull out expansion tray as the Performa 630 and 6200.

The face of the Performa 6200. Although this photo is a 630, they will share exactly the same casing.

Performa 6200 - Video Display Modes

Resolution	Built-in DRAM
640 x 480	32,768 colours
832 x 624	256 colours
1,024 x 768	n/a
1,152 x 870	n/a

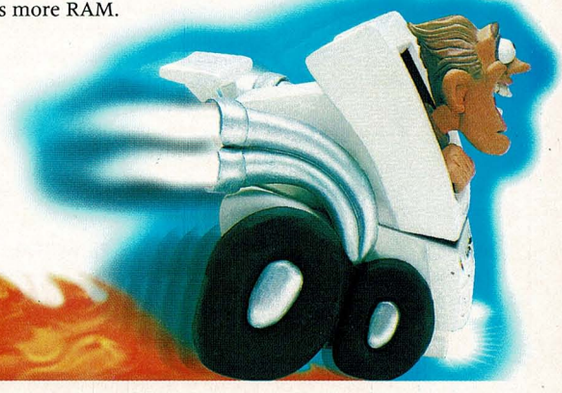
The 5200 heralds an unexpected return to a built-in monitor, last seen with the Colour Classic. The big difference here from previous attempts is that the monitor is much larger, an impressive 15-inch size. Most people criticised the old all-in-one Macs for having too small a screen, so Apple seems to have been listening.

Internally, it is the exactly the same as the 6200, and so is really a 15-inch monitor glued to the top of a 6200. The monitor is a multi-sync model, which means it can imitate a 14-inch or 16-inch screen as well. A second monitor can be added to both machines via the spare PDS slot.

Both models come with a quad-speed CD-ROM as standard, which indicates that quad-speed will soon become the standard – particularly with the launch of the CD600 drive and the forthcoming Bandai Power Player (see last issue's MACFORMAT News for more on the new PowerMac console).

The minimum size hard drive is 500Mb, which should be enough for most people, and Apple should be acknowledged for not skimping in this regard. At the same time the standard amount of RAM is still 8Mb, which is woefully inadequate. A full installation of System 7.5 with QuickDraw GX won't work with less than 16Mb! Come on, Apple – give new models more RAM.

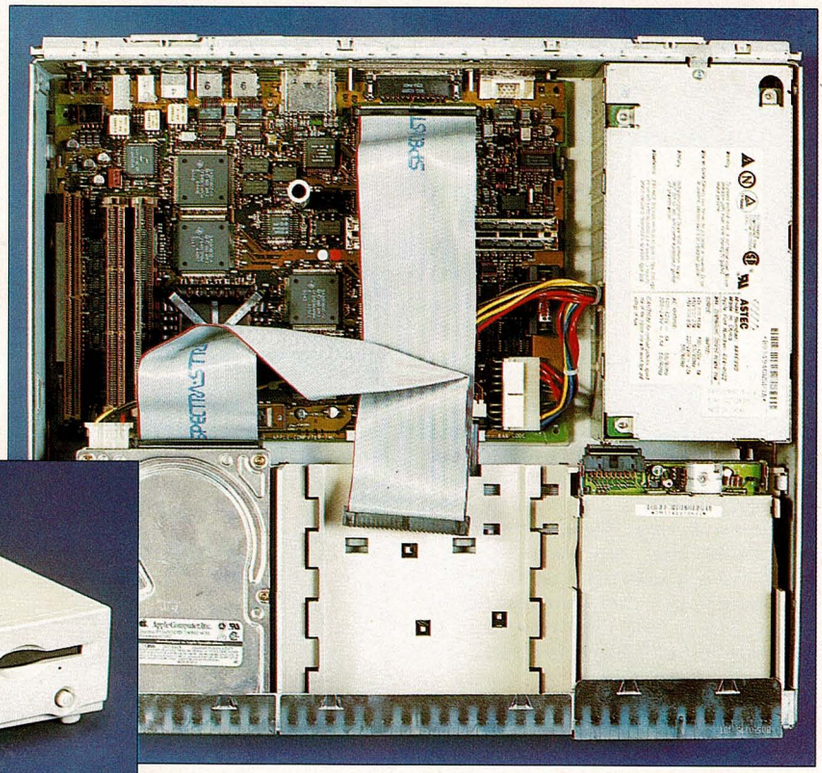
Continued on next page



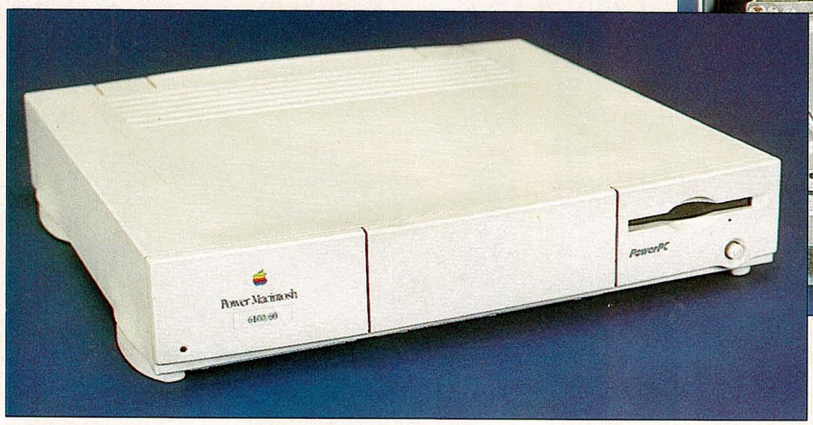
Power Macintosh 6100/66

This is the baby of the PowerMac line-up, yet it's still much more powerful than any of the 68040 Macs that used to be Apple's pride and joy. It's aimed at users in education and business who need a fast Mac, but have a limited budget and don't need to add many extras.

This model replaces the original 6100/60 that was launched in the first batch of PowerMacs, and its clock speed of 66MHz means that its processor is about 10% faster than that of the 6100/60. In addition, the 6100/66 has a 256K cache card installed on its motherboard, and this adds another 10 to 20% to its overall performance. All in all, the 6100/66 is 20 to 30% faster than its predecessor – and around three times as fast as the Quadra 630, the speediest of the remaining 68040 Macs.



The inside of a PowerMac 6100 shows the spare CD-ROM bay (bottom centre) and the empty PDS slot (top left). Unfortunately, this is the limit of its expansion capabilities.



The slim casing of the PowerMac 6100 range is very similar to that first seen with the Centris/Quadra 610.

It'll handle word processing and spreadsheet work with no trouble at all, as well as DTP work such as reports and presentations for business users and students.

The 6100/66 starts at around £1,450 when supplied with the minimum of 8Mb RAM – but as with all PowerMacs, 8Mb really is the bare minimum that you can get any useful work done with. It's enough for a basic System 7.5 installation and less demanding programs such as *ClarisWorks*, but to do much more with the machine you'll need 16Mb – so take that into account when budgeting for the machine (around £250 extra).

The base price also includes a 350Mb hard disk, which should be more than enough for most people. But keeping the price as low as possible has meant that Apple has missed out some of the extras found in other PowerMacs. For instance, there's no CD-ROM drive supplied as standard, although it is an option.

This is where the 6100/66's only real disadvantage surfaces. Its slim-line case only leaves room for a single expansion slot, limiting your expansion choices. It's a dual-purpose slot, though, which can accept either PDS (processor-direct slot) cards such as the AV card or a 7-inch NuBus card if you purchase a £60 NuBus adaptor.

If you want to display more colours your best bet is the AV card, which costs between £180 and £230 if bought with the machine.

Another expansion option is the DOS Compatibility card that turns the 6100/66 into a combination of a Mac and a PC in a single machine. The DOS card is only available for the 6100 range at the moment, so business users who need to use existing PC software or connect to a PC network should consider the 6100/66. Versions of the DOS card will be available for other PowerMacs soon, though – starting with one for the 7100.

One word of advice: some dealers are still selling the old 6100/60 model, so make sure you get the right one. If you're tempted to buy an old PowerMac in order to get a good deal, go for the 7100/66 or possibly the stripped down 7100/66DL instead. They're almost as fast as the 6100/66, and the larger case of the 7100 models gives you more room for expansion when you want it.

Power Macintosh 6100/66 - Video Display Modes

Resolution	Built-in DRAM	2Mb VRAM
640 x 480	32,768 colours	16.7 million colours
832 x 624	256 colours	16.7 million colours
1,024 x 768	n/a	32,768 colours
1,152 x 870	n/a	32,768 colours

Cache your chips

PowerMacs use three types of 'cache' to speed them up. The first is chip cache (32K for the PowerPC 601 chip and 16K for the 603). This is a small amount of memory that's built into the PowerPC chip to store recently-used data. Should this data be required again, the chip can access it at very high speed. This results in a significant speed increase when the PowerPC chip is involved in repetitive tasks.

All PowerMacs, except for the 6100/60, 7100/66 and 7100DL, have 256K of Level 2 cache. This does exactly the same job as chip cache but runs a little slower. A 256K cache can be added to those Macs without it (for £190), and will result in a speed gain of around 20%.

The third form of cache is disk cache and has already been around a while – it's set up from the Memory Control Panel. This stores data that has recently been accessed from the hard disk. If it's required again, it loads much faster from memory than off the disk.

Power Macintosh 7100/80

The Power Macintosh 7100/80 is intended as Apple's mainstream PowerMac and it fits the bill well, providing a good combination of power and upgrade potential.

It has a higher clock speed than the original 7100/66, as well as a 256K cache card included as standard. It's 30% faster than that model and around four times as fast as a Quadra 630.

That's more than enough power to handle tasks such as word processing and spreadsheet work, and it should handle all but the most demanding DTP and 3D graphics work with ease.

Its case is larger than that of the 6100 models, providing room for three NuBus slots and two monitor ports (see the 'Monitor the Situation' box on page 42).

It can't go beyond 2Mb of VRAM without an additional graphics card, so DTP and graphics specialists, who use larger monitors and want millions of colours at resolutions of 1,024 by 768 or above, may prefer to buy a dedicated NuBus graphics card.

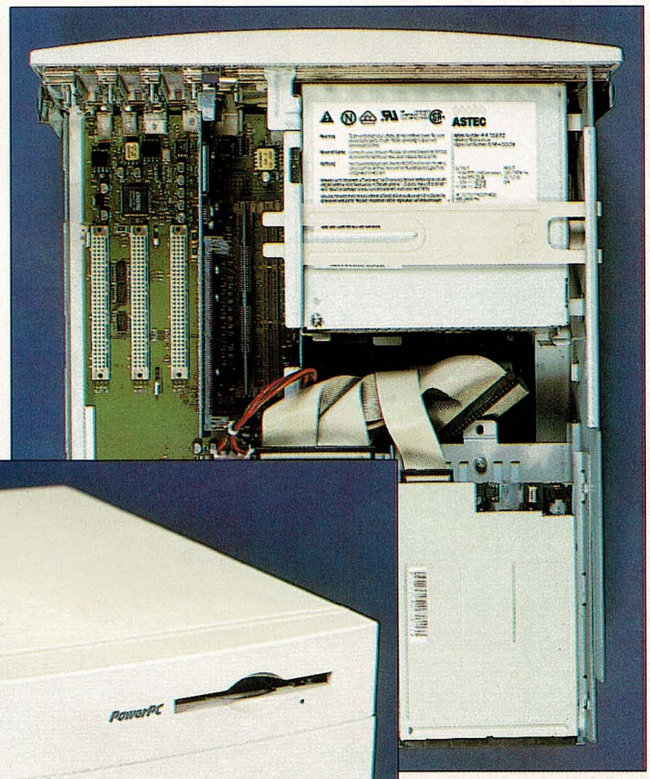
There are two basic configurations of the 7100/80. Both come with 8Mb RAM, but it's a waste to cripple such a powerful machine by only giving it that little, so think seriously about upgrading that to 16Mb as soon as possible. The hard disk options are 350Mb and 700Mb, and the 700Mb version also includes a CD-ROM drive. The larger hard disk and CD-ROM add about £350 to the price, which is reasonable – but if it was my money I'd go for the smaller hard disk and buy an extra 8Mb RAM and a separate quad speed CD-ROM drive.

My only criticism of the 7100/80 is that it seems just a little bit expensive, even taking into account the performance improvement over the 7100/66. You're going to have to pay £2,200 for the basic computer, with the cost of the monitor going on top of that. You'll be lucky to get much change from £2,500 when you buy the 7100/80 with even a basic 14-inch monitor.

Recognising the need for a cheap machine that still has three expansion slots, Apple has produced a stripped-down model called the 7100/66DL.

This model is similar to the original 7100/66, but lacks the second video card – although this can be added separately. You may have heard that you cannot add VRAM or an AV card to a DL machine. In fact, all that Apple did was install a terminator device in the PDS slot. Simply remove this and the PDS slot is fully useable.

At the time of writing, there were a few DLs left, being offered at the incredibly low price of £1,000. Unfortunately Apple no longer produces this model so it may be hard to find stocks. If you can, it's probably the best Mac bargain ever.



Inside, you can clearly see the three empty NuBus slots towards the back of the 7100 in the top left corner.

The 7100 has a much larger case than the 6100, giving it much greater expansion capabilities.

Continued on next page

VIRTUAL QUIRK

Virtual memory is a system that enables a Mac to use hard disk space as RAM, giving you more memory. All Macs with the 68030 and 68040 chips can use virtual memory, although it does slow the Mac down.

PowerMacs also have the virtual memory option built in, which is useful because native programs usually need a lot of RAM. This is because applications written for 680x0 based Macs have their code stored in small pieces called resources. These resources can be loaded individually as each piece is needed. Native programs have their code stored in one big piece, which is loaded into memory at once.

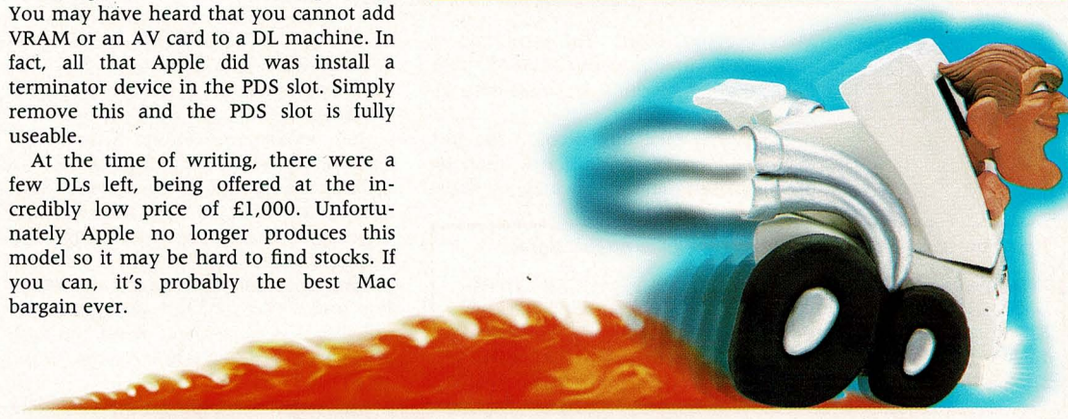
However, PowerMacs use something called file-mapped virtual memory, which means that when virtual memory is turned on, the program code can be broken down into smaller pieces.

This means that you may want to turn your PowerMac's virtual memory on and just allocate a nominal amount of hard disk space to be used as RAM. Just doing this means that *Photoshop's* suggested RAM requirements drop from 13Mb to 8Mb!

An even better solution is to invest in *RAM Doubler* (£80 from Computers Unlimited – see page 50), a utility that uses ingenious memory management techniques to squeeze more space out of your existing RAM. Because it uses a form of virtual memory, it also causes programs to require less RAM. Make sure you get the latest version, 1.5, which is PowerMac compatible.

Power Macintosh 7100/80 - Video Display Modes

Resolution	Built-in DRAM	1Mb VRAM	2Mb VRAM
640 x 480	32,768 colours	32,768 colours	16.7 million colours
832 x 624	256 colours	32,768 colours	16.7 million colours
1,024 x 768	n/a	256 colours	32,768 colours
1,152 x 870	n/a	256 colours	32,768 colours



Power Macintosh 8100/100 and 8100/110

The 8100 models are the big boys of the PowerMac range in more ways than one. The original 8100/80 has now been replaced by two different models with clock speeds of 100MHz and 110MHz – speeds that were unheard of in any of the old 680x0 Macs.

Both models include a 246K cache card for optimum performance, and it goes without saying that these are the fastest Macs ever produced. The 8100/100 is about 20% faster than the 7100/80, with the 8100/110 reaching an impressive 25 to 30% faster.

The PowerMac 8100 has an upright case but only has the same number of NuBus slots as the 7100.

When you take into account the fact that the 8100 PowerMacs will often be used for work that relies heavily on floating point calculations – which is what the PowerPC chip does best – then you're looking at performance levels up to five times greater than a Quadra 630.

You don't need that kind of performance if all you're doing is a bit of word processing, but if your work involves a lot of image editing, 3D graphics or multimedia work these are the Macs for you.

The 8100/110 also includes a feature called 'burst-mode', which enables NuBus cards such as graphics accelerators to transfer large amounts of data in short bursts. This is particularly useful when dealing with the enormous file sizes involved in colour graphics and digital video work.

Both models are housed in large upright units, which provide space for an additional hard disk or a removable storage device such as a magneto-optical drive, which can be used for backing up important files.

Inside both units there are three NuBus slots and a PDS slot. But although Apple provides a version of the 8100/100 with an AV card, it doesn't do the same for the 8100/110.

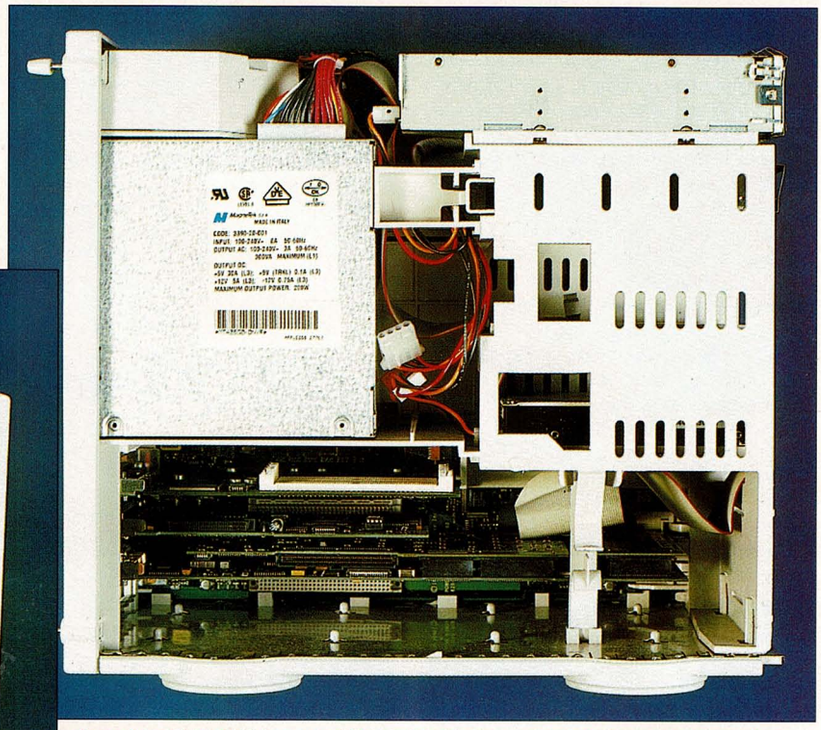
That might seem like an odd omission, but anyone using an 8100/110 for digital video work will almost certainly be using a more sophisticated video system, such as Radius' VideoVision, which indeed we have installed in the office 8100.

Some of the extra room inside these models is given over to sockets for adding additional RAM, enabling you to fit up to 264Mb of RAM (which would cost an extra £8,000).

There's more VRAM as well, with a basic 2Mb of VRAM on the video card that can be upgraded to 4Mb – providing 16.7 million colours on even the largest monitors. However, as with video input, many 8100 users will settle for the basic 2Mb VRAM and then choose the third-party graphics card of their choice.

There's a price to pay for all that power, of course. You can buy the 8100/100 with 8Mb RAM and a 700Mb hard disk for about £3,000, but anything less than 16Mb RAM is a complete waste of time. The next step up is 16Mb RAM, a 700Mb hard disk and built-in CD-ROM, which will cost an extra £400.

The 8100/110 leaps straight in with 16Mb RAM, 2Gb hard disk and a double speed CD-ROM drive. That will cost you a cool £4,800. A lot of money for an extra 10MHz! And all those prices are exclusive of the cost of a monitor. Oh well... I can dream, can't I?



One option with the 8100 is a spare 5.25-inch disk drive bay to add a DAT drive or similar. This Mac already has two NuBus cards installed, a Radius Video card and a connector to attach a RAID drive.

Power Macintosh 8100/100 and 8100/110 - Video Display Modes

Resolution	Built-in DRAM	2Mb VRAM	4Mb VRAM
640 x 480	32,768 colours	16.7 million colours	16.7 million
832 x 624	256 colours	16.7 million colours	16.7 million
1,024 x 768	n/a	32,768 colours	16.7 million
1,152 x 870	n/a	32,768 colours	16.7 million

POWERMAC FEATURES AT A GLANCE

Model	Performa 5200/6200	6100/66	7100DL	7100/80	8100/100	8100/110
Basic Price*	£1,474/£1,374	£ 1,450	£ 1,300	£ 2,100	£ 3,000	£ 4,800
Price includes	keyboard, mouse, monitor	keyboard, mouse	keyboard, mouse, monitor	keyboard, mouse	keyboard, mouse	keyboard, mouse
Processor	PowerPC 603	PowerPC 601	PowerPC 601	PowerPC 601	PowerPC 601	PowerPC 601
Clock Speed (MHz)	75	66	66	80	100	110
Cache	256K	256K	n/a	256K	256K	256K
Basic RAM (Mb)	8	8	8	8	8	16
Maximum Possible RAM (Mb)	64	72	136	136	264	264
Basic Hard Disk (Mb)	500	350	350	350	700	2Gb
CD-ROM	Quad speed	optional	optional	optional	optional	double speed
Additional Configurations**	12/500/CD/TV/Plus	8/350/CD	n/a	8/700/CD 8/700/CD/AV	16/700/CD 16/1Gb/CD/AV	n/a
NuBus Expansion Slots	0	1***	3	3	3	3
Processor Direct Slot (PDS)	1	1	1	1	1	1
DRAM Video	yes	yes	yes	yes	yes	yes
Standard VRAM (Mb)	0	0	0	1	2	2
Maximum VRAM (Mb)	2	2	2	2	4	4
Audio System						
Sound In/Out	TBA	16-bit stereo	16-bit stereo	16-bit stereo	16-bit stereo	16-bit stereo
Sampling rates (KHz)	TBA	44.1, 22.05	44.1, 22.05	44.1, 22.05	44.1, 22.05	44.1, 22.05
External Interfaces						
SCSI port	yes	yes	yes	yes	yes	yes
GeoPort	no	yes	yes	yes	yes	yes
Printer port	yes	yes	yes	yes	yes	yes
Keyboard/Mouse port	yes	yes	yes	yes	yes	yes
Modem port	yes	yes	yes	yes	yes	yes
High Density Monitor port	no	yes	yes	yes	yes	yes
Second Monitor port	with AV card	with AV card	with AV card	yes	yes	yes
Ethernet	no	yes	yes	yes	yes	yes
Microphone port	yes	yes	yes	yes	yes	yes
Headphone/speaker port	yes	yes	yes	yes	yes	yes
Video In/Out ports	Video in with 630 card	with AV card	with AV card	with AV card	with AV card	with AV card

* Approximate street price, inc.VAT. ** As supplied by Apple UK. Other configurations by agreement with individual dealers.
***PDS slot can be used as NuBu slot with adaptor card. CD = CD-ROM supplied as standard AV = AV card supplied as standard

Add-ons and plug-ins

In addition to their high-speed PowerPC processors, the PowerMacs all have a number of expansion features that enable you to add new capabilities to them.

PowerMacs – and most of the recent 680x0 based Macs – include a processor direct slot (PDS) on their main circuit board. This is an expansion slot that can be used to add plug-in cards such as Apple's AV (Audio Visual) card.

The AV card carries two connection sockets that provide video input and output. The video input socket enables you to link the PowerMac to a video source, such as a video recorder or camcorder, and play the video on screen. You can even capture the video, turning it into a QuickTime movie that you can store on your hard disk and edit with programs such as *Adobe Premiere*.

Or you can go the other way, and use the video out socket to view the computer's display on an ordinary TV or record it onto videotape.

There are different AV cards available for different Mac models. The cards designed for 680x0-based Macs, such as the LC630, include a special processor called a DSP (Digital Signal Processor). This handles all the audio and video processing for the Mac – and it also enables the machine to use Apple's *PlainTalk* speech recognition software.

PowerMacs don't need a DSP, as the PowerPC processor is powerful enough to handle *PlainTalk* and audio and video processing on its own. So PowerMac AV cards just provide the video input and output sockets.

To use speech recognition, you need to buy a *PlainTalk* microphone for around £30 (this is not the round microphone bundled free with some Macs).

All PowerMacs do include a GeoPort. This is a new kind of communications interface, similar to the modem port that all computers have. However, GeoPort has been designed to connect to a telephone line without needing a modem to sit between the computer and the phone line. You'll need a special £100 GeoPort adaptor that plugs into the modem port to do this, as well as the *Telephone Manager* software supplied with System 7.5.

In theory, the combination of GeoPort and *Telephone Manager* will enable PowerMacs to function as a combination modem, fax machine and even telephone answering machine. It's early days for this technology, though, and there are few products available right now that actually exploit GeoPort properly.

The Power Mac 6100/60 and 6100/66 also have an unusual option in Apple's DOS Compatibility Card. This card carries an Intel 486 chip and plugs into the PDS, allowing the PowerMac to act just like an PC-compatible. You can switch between Mac and PC modes by using a hot-key keyboard command and you can even copy and paste information between Mac and Windows applications.

The DOS Compatibility card will only work with 6100 models as it's the wrong shape to fit into any of the other PowerMacs, but either Apple or Reply Corporation, which has licensed the card design, will be producing versions for other PowerMacs.

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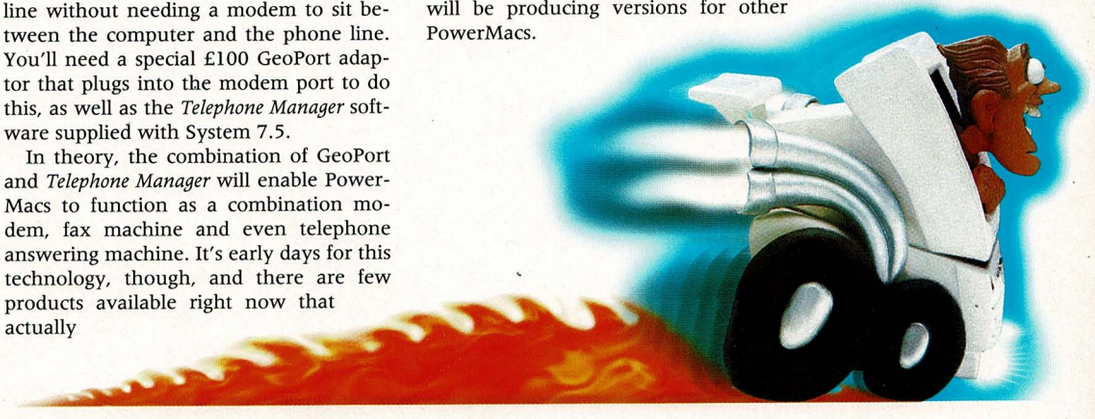


Upgrade to PowerMac

All this talk about PowerPC is fine if you're just about to buy a new Mac, but what do you do if you're one of the ten million or so people who already has a non-PowerPC Mac?

As new technologies such as multimedia, desktop video and 3D graphics continue to develop, these older Macs will start to find themselves running out of steam.

Fortunately, Apple realised that asking all those users to dump their existing Macs and buy brand new PowerMacs overnight might be pushing its luck a little bit too far. With that in mind, Apple has gone out of its way to ensure that all the Macs produced in the last couple of years are capable of receiving some sort of PowerPC upgrade. It produces upgrade cards itself, and also licenses DayStar to manufacture a complementary range. Although we discuss the entire DayStar range here, some are not available yet in the UK and you may need to buy direct from the US. DayStar products are distributed in the UK by Aptec and Ingram Micros – contact numbers are on page 50.

There are two basic choices. Depending on which type of Mac you own, you can either use a PDS plug-in card that has a PowerPC chip on it, or you can go for a complete logic board upgrade.

A PDS card gives you a PowerPC chip but essentially the rest of your Mac stays the same. These are available from both Apple and DayStar.

A logic board upgrade is almost like buying a new Mac. The logic board is the circuit board that holds all your Mac's main components, such as the CPU, RAM, and the sound and video circuitry. Apple supplies kits that enable dealers – not users – to take the logic boards out of certain Mac models and replace them with entirely new PowerMac logic boards. To all intents and purposes you've got a brand new Mac, especially as the floppy and hard drives which are left inside are the same as PowerMacs use. These upgrade boards are produced only by Apple.

RAM
Random Access Memory. The main memory used by a computer when it is running programs and performing calculations.

VRAM
Video RAM. A specialised, high-speed form of memory used for controlling a computer's video display.

DRAM
Dynamic RAM. A method of controlling the computer's video display using ordinary RAM, rather than specialised VRAM.

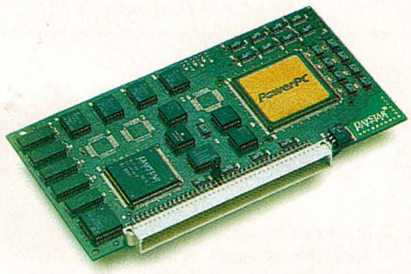
Which to choose?

Deciding whether to go for a card upgrade or the entire logic board upgrade will depend on a number of factors, including price, the speed of your existing Mac and the speed that you want to move up to. There's a baffling variety of price and speed combinations available, and it's quite possible that you'll find it's actually better to go out and buy a new machine for one of two reasons. It will either be cheaper once you've sold your current Mac, or you can have two Macs (and play a network game of *Marathon*!).

PDS cards aren't cheap, but they can save you a lot of money as they allow you to keep all the existing RAM in your Mac. Their other advantage is that you keep your current 680x0 chip. If you come across software that won't run under emulation, you can instantly switch to your old chip, ensuring complete compatibility.

Buying a new PowerMac or getting a logic board upgrade has the hidden extra cost of new RAM. Older Macs use a different type of RAM (30 pin SIMMs) which can't be used in PowerMacs (72 pin SIMMs) unless you buy an adaptor (see the 'SimmSaver' box on page 50). The only drawback is that although you can use your existing RAM, if you are using the older 30 pin SIMMs they will be slightly slower than the new SIMMs.

DayStar apparently will be producing cards in the future for many Mac II models and even the SE! The bad news is that some of the oldest Macs, such as the Classic and the earliest LC models, are just too old and clunky to allow for one of these upgrades, so start saving up for a brand new PowerMac straight away.



DayStar's Turbo 601 brings PowerMac upgrades to several old computers, such as the IIci.

DayStar Turbo 601

If you own a IIci or IIsi then this is the only option you have, although the Turbo 601 is also available for the IIvi and IIvx (Performa 600). It comes in two versions, one with a 66MHz PowerPC chip (around £1,200), and one running at 100MHz (around £2,000).

Both have a 256K cache, providing performance similar to that of a fully fledged PowerMac running at either 66 or 100MHz. The card won't quite match the full speed of a true PowerMac as the age-

Can you upgrade your Mac to PowerMac?

UPGRADES AVAILABLE (right) / MACS YOU CAN UPGRADE (below)	Apple Macintosh Processor Upgrade/ DayStar PowerCard 601	Apple Power Macintosh Upgrade Card	DayStar Turbo 601	DayStar PowerPro 601	Apple Logic Board Upgrade
68030 Macs					
Mac IIci/IIsi	no	no	yes	no	no
Mac IIvi/IIvx/ Performa 600	no	no	yes	no	7100/66
Entry level 68040					
LC/Performa/ Quadra 630	yes (66MHz)	no	no	no	no
LC/Performa 475	yes (50MHz)	no	no	no	no
High-end 68040					
Quadra 950	no	yes (66MHz)	no	yes	no
Quadra 900	no	yes (50MHz)	no	yes	no
Quadra 840	no	no	no	no	8100/80
Quadra 800	no	yes (66MHz)	no	yes	8100/80
Quadra 700	no	yes (50MHz)	no	yes	no
Quadra/ Centris 660	no	no	no	no	6100/60
Quadra 650	no	yes (66MHz)	no	yes	7100/66
Centris 650	no	yes (50MHz)	no	yes	7100/66
Quadra 610	no	yes (50MHz)	no	yes	6100/60
Centris 610	no	yes (40MHz)	no	yes	6100/60

ing disk and video components of the Mac hold it back a little.

Comparing the price of the 66MHz card to a brand new PowerMac 6100, there is only a slender saving to be made. The 100MHz version offers more substantial savings over an 8100.

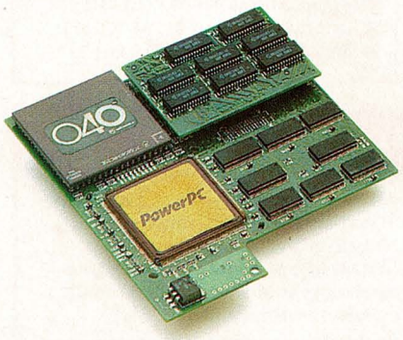
As the chips will run at full speed, you will effectively have a PowerMac but with slightly slower RAM and no GeoPort.

Processor Upgrade/DayStar PowerCard 601

Apple and DayStar jointly developed the PDS upgrade card for the 475 (LC and Performa), and the 630 (LC, Performa and Quadra). Apple's card costs about £550 and is called the Macintosh Processor Upgrade, while DayStar's version costs the same but is called the PowerCard 601.

Both cards work in the same way, and contain a 256K level 2 cache. They are inserted into the processor direct slot on the Mac's logic board and then run the PowerPC processor at twice the speed of the Mac's original processor. If you started off with an LC 630 running at 33MHz, you'd end up with a Power Macintosh running at 66MHz. This is a real bargain – for a mere £550 you're upgrading your Mac to the level of a Power Macintosh 6100/66 that would cost £1,450 brand new.

That's a real bargain, but it does assume that your original Mac was running at 33MHz. If you had an LC 475 (Performa 475), which has a clock speed of 25MHz, you would still have to pay £550 for the card even though it would only be able to run at 50MHz. That's still a good performance boost and it will suit both the needs and the pocket of most home users. But if you're thinking about doing heavy duty graphics or multimedia work then you'll need more power than this



The DayStar PowerCard 601 enables you to put a PowerMac inside an LC475 for under £600!

card can provide and you should think about buying a brand new PowerMac.

This speed limitation is a result of the way that the entry-level Macs are designed. Even if you put a faster PowerPC processor on the card, the Mac simply wouldn't be able to run any faster than twice its original speed. As a slight compensation for this, the entry-level upgrade cards allow you to keep your original 68040 processor.

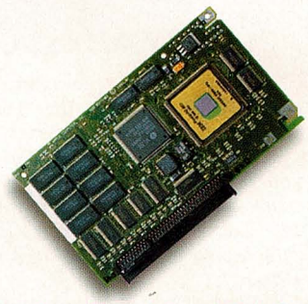
You simply remove the 68040 processor from the Mac's logic board and reinsert it into an empty socket on the upgrade card. You can then switch from the PowerPC processor to the 68040 whenever you want, and this allows you to keep running existing Mac software at full speed, rather than having to use the PowerPC's emulator.

You can do this yourself, but it's easy to damage the processor unless you're very careful indeed, so I'd recommend getting your dealer to install the card. That way it's his fault if anything goes wrong, and you won't have to pay for the repairs.

Apple Power Macintosh Upgrade Card

Apple sells a similar PDS upgrade card for the high-end 68040 Macs (see the table opposite), though this is called the Power Macintosh Upgrade Card to keep it separate from the entry-level card.

It costs around £700 and contains a PowerPC processor running at twice the speed of the Mac's original processor. These Macs, which include the Centris 610 and Quadra 610 and all models above, are also split between 25MHz and



The Apple Power Macintosh Upgrade Card offers a reasonably-priced upgrade path for many Macs.

33MHz speeds, so again the 33MHz models gain the most benefit from the upgrade card.

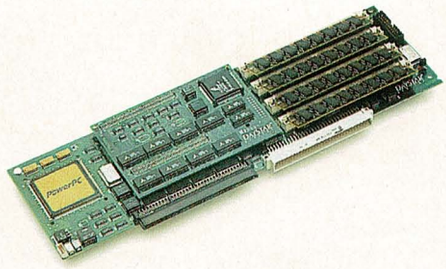
However, one of the differences between the high-end Macs and their entry level counterparts is their ability to run at more than twice the speed of their original processor. This means that upgrade cards can be designed for these Macs using PowerPC processors running much faster than 66MHz.

Apple's not an upgrade specialist, so it left the task of producing those faster cards to DayStar. The result was DayStar's PowerPro 601.

DayStar PowerPro 601

The PowerPro is available for the same range of Macs as Apple's Power Macintosh Upgrade Card, but instead of running at just double the speed of the original processor, the chip can run at full speed, so you really get more benefit if your Mac runs at 25MHz. It also contains a very large 1Mb of level 2 cache, more than any PowerMac.

There



The DayStar PowerPro card enables you to add 72 pin RAM SIMMs that will work at full PowerMac speed.

are two versions of the card. One runs at 100MHz and uses your existing RAM, whilst the second runs at a slower 80MHz, but has four empty SIMM slots for adding the faster PowerMac SIMMs. This may not be necessary for home users who just want to run *ClarisWorks*, but graphics and multimedia specialists need all the RAM they can get.

Also bear in mind that the PowerPro card tends to work best when it's got a lot of RAM – by which I mean dozens of megabytes. With the standard 8Mb or 16Mb that most of us use, the PowerPro runs slightly slower than a PowerMac with a comparable clock speed.

Both cards cost around £2,000, which is the same price as buying a new Power Macintosh 7100. You should buy the card if you've got a lot of RAM that would be costly to replace, but otherwise there's not much to choose between the two options. Find out how much trade-in you can get for your existing Mac.

Apple Logic Board Upgrade

As well as card upgrades, there's a group of Quadra and Centris Macs that also have the option of logic board upgrades from Apple. It is worth noting, however, that the logic boards are for the original range of PowerMacs, not the currently available ones.

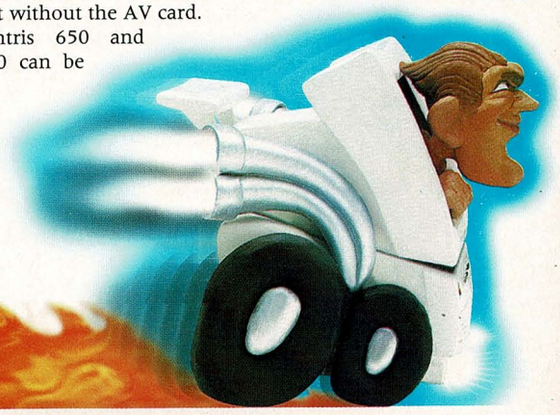
These logic board upgrades may cost less than a brand new PowerMac, although of course you are buying slightly out of date technology. The Centris 610 and 660/AV, and Quadra 610 and 660/AV can all be upgraded to Power Macintosh 6100/60/AV level for £1,400, which isn't great value as it's only £50 cheaper than buying a new Power Macintosh 6100/66, which will be about 30% faster, albeit without the AV card.

The Centris 650 and Quadra 650 can be

CPU
Central Processing Unit. The chip that controls all of a computer's functions.

CLOCK SPEED
The number of cycles per second performed by a computer's chip. One MHz equals one million cycles per second.

Continued on next page



UPGRADING YOUR POWERMAC

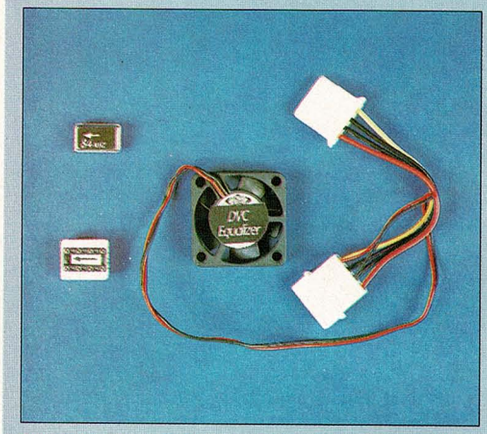
If you already own a PowerMac, there are already upgrades available. They take the form of accelerators that plug onto the logic board. We covered the first one in MACFORMAT 20, but since then, prices have dropped dramatically.

The accelerator can take the PowerPC 601 chip running at 60 and 66MHz, and speed it up to 84MHz. Alternatively, it can take the 601 chip running at 100 or 110MHz and speed it up to a cracking 126MHz.

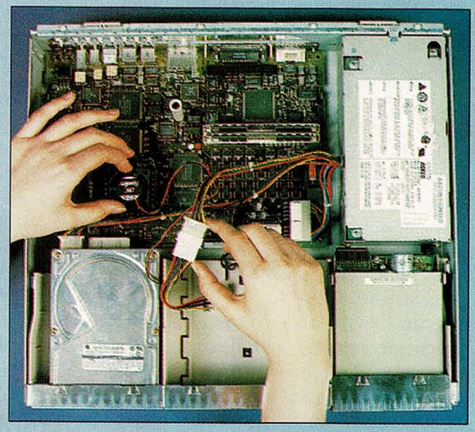
Two companies are currently selling these accelerators in the UK. Performance Direct sells the DVC Equalizer at £99, while Domain sells a product called the Mach 10 Jet, also at £99.

In our tests, both products lived up to their claims. We fitted a DVC Equalizer inside a 6100/60 to speed it up to 84MHz. *Photoshop* filters immediately speeded up by 20%. For £99 this is an attractive option, although people with a 66MHz PowerMac will see a smaller increase for the same money.

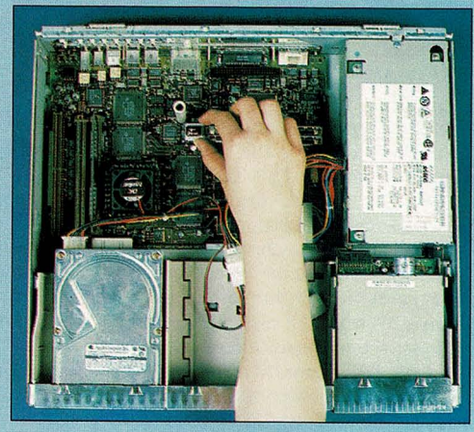
According to Domain, expect to see accelerators for the Performa 5200 and 6200, as well as for the PowerMac PowerBooks when they arrive.



Fitting one of these accelerators is easy, although it invalidates your warranty. Here we are fitting one to a PowerMac 6100. As you work, avoid touching any chips – static can destroy them!

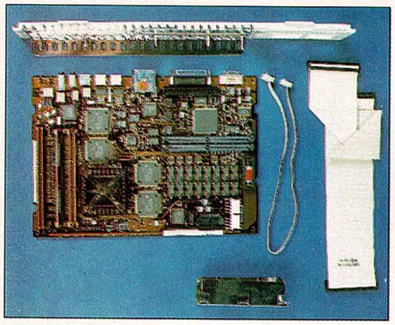


Plug the fan into the power connector designed for an internal CD-ROM drive. It still works even if there's a CD drive installed. Then push the fan into the heat sink over the PowerPC chip.



Fit the oscillator in its clip, and push onto the clock chip. This will cause to chip to work at its maximum capacity. Finally replace the lid and switch your Mac on. It's that easy!

upgraded to the Power Macintosh 7100/66/AV for £1,500, and that's not a bargain either. A new 6100/66 will be about £50 cheaper and slightly faster, thanks to its cache card.



A logic board upgrade gives you exactly the same board found in the full machine, plus the correct back panel.

Only the logic board upgrades for the Quadra 800 and 840/AV are really worth considering. These can both be upgraded to the Power Macintosh 8100/80/AV for £2,000. That's about £100 cheaper than a new Power Macintosh 7100/80, so it's good value as the upgrade will be just as fast and also include the AV card.

Which Upgrade?

If you've got a 68030 based Mac you don't have a lot of choices right now. The DayStar PowerCard is good for IIci owners, but owners of the IIvi and IIvx are penalised by Apple's unreasonably high pricing for its logic board upgrades. The same applies to owners of Quadra and Centris models thinking about the 6100/60/AV and 7100/66/AV logic board upgrades.

The 8100/80/AV upgrade is better value for money, though, so it's well worth considering if you've got a Quadra 800 or 840/AV.

If you've got a 68040 based Mac with a clock speed of 33MHz you're laughing. The Apple/DayStar upgrade will give you true PowerMac performance for as little as £650.

If you've got an entry-level, 68040 based Mac running at 25MHz, the same upgrade card is still good value, but you won't be in the same league as the real PowerMacs. If you only use the Mac for light work such as playing games and word processing the card upgrade will give you all the power you need. But if you really need extra power and you've got the cash you should think about going the whole hog and buying a new PowerMac.

For the remaining 68040 Macs, DayStar's PowerPro 601 can provide impressive PowerMac speeds, as well as saving you cash on the cost of lots of new RAM, which is at least £30 a megabyte.

Well, that about covers it. Don't worry if your Mac isn't one of the models that has a decent upgrade path, because a computer is never obsolete as long as it can still do the job you bought it for in the first place. And you can take some consolation from this fact: if you do fork out for a new PowerMac, it'll be worth it. We promise. **MF**

GEOPORT
An interface built into all PowerMacs that enables them to be directly linked to a telephone line.

Essential Contacts

- Apple 0800 127753
- Aptec 0171 6271000
- Computers Unlimited 0181 200 8282
- DayStar (US) 00 1 404 967 2077
- Domain 0191 2012124
- Harwood 01773 836781
- Ingram Micros 01908 260160
- Performance Direct 01784 477477
- SimmSaver (US) 00 1 316 264 2244

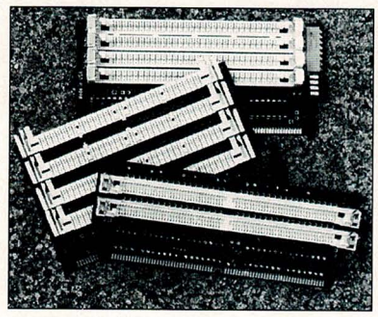
SIMMSAVER ADAPTORS

There are two commonly held beliefs about PowerMacs. First, they can't use the old 30 pin SIMMs; second, the 6100 has a maximum of 72Mb RAM. In fact both of these limitations have been overcome by an American company called SimmSaver. It produces a wide range of memory adaptors for all Macs.

One adaptor enables you to use the old 30 pin SIMMs in a PowerMac. This is useful if you buy a logic board upgrade and want to take your old RAM with you.

When the spec sheets talk about the maximum amount of RAM that any Mac can take, the figure is based on the calculation of plugging a 32Mb SIMM (the largest SIMM widely available) into all the spare SIMM slots.

So when Apple says that the 6100 has a maximum RAM capacity of 72Mb, this is based on the calculation that it has 8Mb on the motherboard and two empty SIMM slots. Using an adaptor from SimmSaver, you can add up to four SIMMs into each slot, dramatically increasing your Mac's capacity. For full details, give them a phone.



These adaptors enable you to plug two or four SIMMs into each RAM slot on the logic board.

Power Computing now has a line of Mac-compatible machines based on the PowerPC chip.

Future Power

The PowerMac has made a huge impact, but it's only setting the stage for a machine that will change the way we use computers even more dramatically.

The revolution has taken place right under your nose. Over a million Power Macintoshes have been sold in the past year, each one run by the new PowerPC chip.

It's the first time in years that a brand new computer platform has been launched successfully into the competitive market. And because of the successful emulation that enables the PowerMac to use Mac software (see page 41), some people didn't even realise it was so different. Working in a completely different way from its predecessor, the PowerMac is more than just a fast Mac.

But Apple isn't finished. Together with its industry partners IBM and Motorola, it plans to transform the computers we use and the way we use them. The revolution will continue in a few months with the arrival of new PowerMacs, some of which will contain the 604 chip – the fastest yet in the PowerPC chip family. Top of the range will be a beast of a PowerMac codenamed Tsunami, which will be aimed at the ever-demanding publishing industry.

In common with the other PowerMacs set to be launched simultaneously (some keeping the old 601 chips), Tsunami will feature a new type of hardware card slot called PCI. Peripheral Component Interconnect replaces the more familiar NuBus slots found in many Macs, but fulfils the same role of accepting cards like graphic accelerators that add abilities to your Mac. Only faster.

Where a NuBus card can exchange information with your Mac's main chip at a once-respectable 40Mb a second, its PCI equivalent is a 132Mb-a-second torpedo of data transmission. PCI is also being taken up by makers of PC-compatible computers that commonly run the Microsoft Windows operating system. So companies that make cards love PCI, because it's fast and everyone's using it – so there'll be lots of different cards at good prices. Look out for TV tuners, high-quality MPEG video, fax/modems and graphic powerhouses, all on cards that slot straight into the new PowerMacs and their successors.

Come together

Apple is not the only company throwing its weight behind the PowerPC chips. The games console designer 3DO's next machine will be based on the 602, while Bandai's Power Player console (see MACFORMAT 24) uses the 603. Even motor firm Ford is joining in, with plans to use the chips in the dashboards of its cars.

More significantly, IBM and Motorola are each launching their own PowerPC-based computers. IBM's Power Personal range uses the company's OS/2 and AIX operating systems, while Motorola's PowerStacks rely on Windows NT. Neither machine can run Mac OS, because the operating system needs extra chips made by Apple to run. But plans are in place to unite these three competing approaches.

Apple, IBM and Motorola are combining forces yet again to create a new computer based on the PowerPC family which they developed. It's called CHRP (Common Hardware Reference Platform) or, more mischievously, Common Reference Platform (CReP). Full details of the machine are still being discussed, but what's already clear is that CHRP will be able to use Mac OS, OS/2, AIX, Windows NT and others still to come. You'll be able to buy any or all of these operating systems and have a far wider choice of programs than ever.

Apple's multi-media and games console prototype Pippin, to be sold as the Bandai Power Player, is one of the new machines using a PowerPC chip.

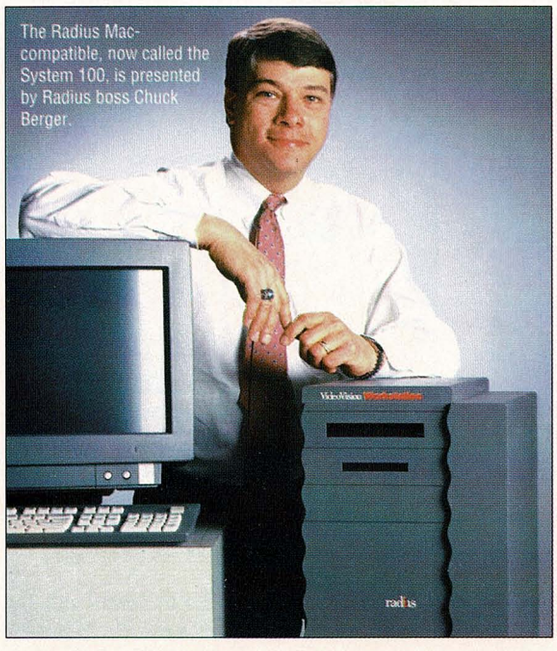
Because of the freedom of choice you'll enjoy, Apple's Mac OS will no longer enjoy the comfort of being your only operating system option, so Apple will have to fight to keep your loyalty. It intends to do this with 1997's Gershwin, the codename for its most progressive operating system to date.

Gershwin promises to have the flexibility and power CHRP will demand, with the ability to run more than one program at once – enabling you to do things like rendering a complex 3D scene in the background while you type a letter. Programs will be transformed by OpenDoc, a system that enables small modular programs to work together – so you can pick and choose the modules you want to use with total freedom.

Gershwin will also be almost entirely written in program code that the PowerMac and CHRP can understand directly, rather than having to translate standard Mac code as the PowerMac does at present. And it will no longer be reliant on the special Mac chips being in the computer either, thus making it easier for companies to make computers that can use Mac OS.

The tasks we can do today are restricted by the power of the computer we own. Tomorrow's combination of CHRP and a streamlined Mac OS will bring the power of the mightiest computers to everyone, creating possibilities we've only ever dreamed of.

RICHARD HILL



The Radius Mac-compatible, now called the System 100, is presented by Radius boss Chuck Berger.

DID YOU KNOW?

'Tsunami' is a Japanese word, which translates roughly as 'tidal wave'. The other PowerMacs are codenamed Nitro, TNT, Catalyst and Alchemy.

PCI CARDS

Companies who have said they'll be making PCI cards for the new PowerMacs include Radius, DEC, Linotype-Hell, Matrox, Micronet and Truevision.

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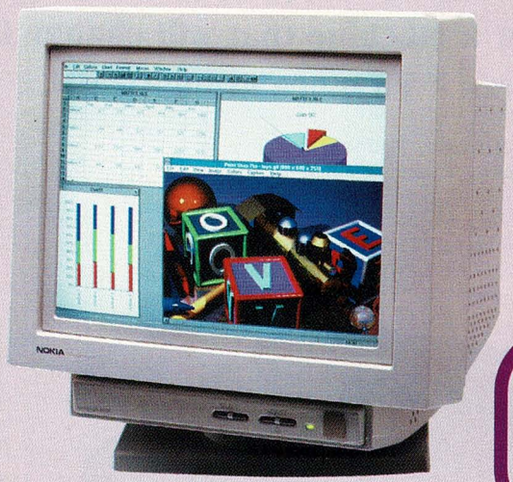
Nokia 15" Trinitron Monitor



Specification
15" Trinitron, full square, flat screen
0.25 Dot pitch
Anti-glare, anti-static coating.

Resolution
640x480 up to 100Hz
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FullScreen™
Active picture size: 279x208mm.

Controls
Main switch with degaussing, power indicator LED.
DigiControl™ with:
- *Brightness and contrast.*
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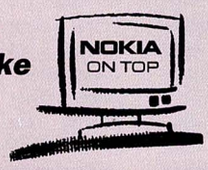
31949

329.95

Includes adaptor and connection cables

With Nokia on screen selection you can make your own picture adjustments.



Nokia have introduced on screen menu selection covering most of the adjustments that can be made in a monitor. They have also made it user friendly and you need only to enter the menu selection through the selection buttons on the front panel.

LC 475 package 8/160

8MB Memory, 160MB Hard Disk with System 7.1 and a 14" Performa Plus monitor, full extended keyboard and all connection cables for less than £600

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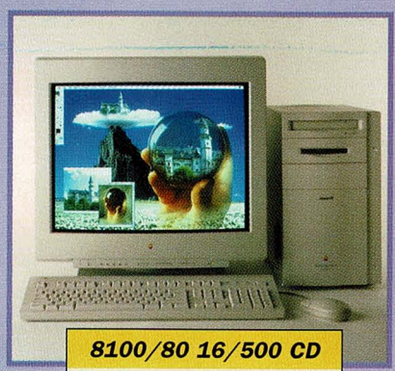

8100/80 16/500 CD

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A decent exposure

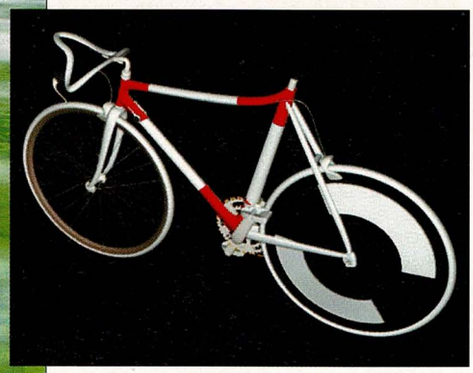
In our continuing series about 3D basics, Brian Larkman brings image making in from the dark with his 'everything you need to know but were afraid to ask' guide to 3D rendering.

Some of the effects here are exclusive to *KPT Bryce*. But many features here are common to other programs, such as the depth-of-field effect . The final image is composited together and processed in *Photoshop* from several renders and effects channels.

Rendering a 3D model is like taking a photograph. Once you have positioned the 'camera' in front of your scene, you just press the button and make the exposure or render. Easy! For most of us though, it's just about here that comparisons with basic snapshot photography begin to break down.

Generally we've surrendered the rest of the process to the electronics in the camera and to the 'Labs'. So the real magic of photography, watching the image form in the developing dish, is the bit most of us miss out on. 3D rendering helps return this joy to us but without the darkness and without the chemicals.

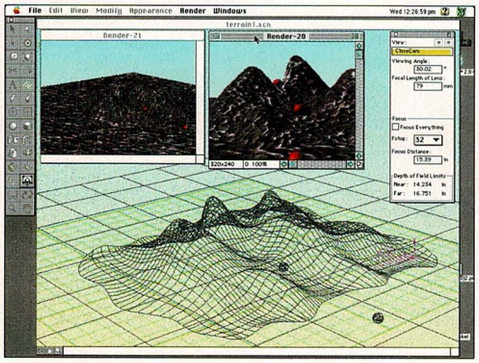
So, setting up and watching a 'render'



Most programs have the ability to render single objects isolated from the rest of the scene against a plain background. Here a bike's been rendered in *RenderMan* for use as a clip object in the final montage. Lighting can be controlled to match the final image. *Sketch* even provides tools to ensure that the camera view matches the final image perfectly.

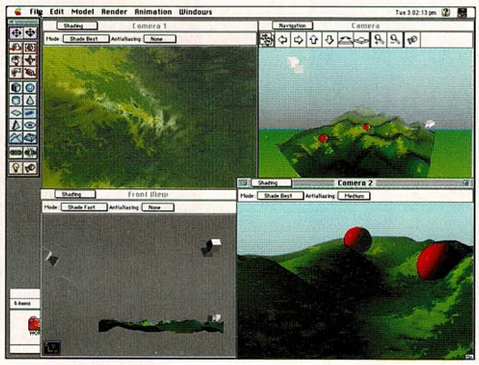
INTERFACES

Here is a brief guide to the rendering control panels of all the 3D programs featured in this article.



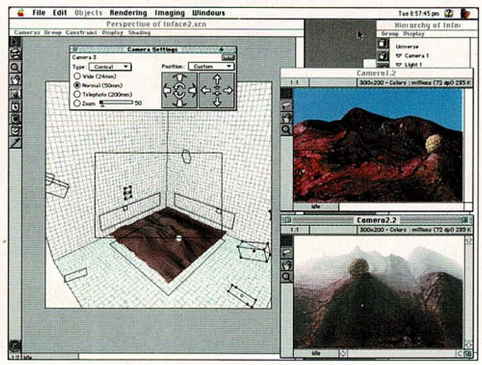
Alias Sketch Rendering

Sketch has a simple wireframe modelling interface but you can only have one view at a time. Unlimited camera views can be set: camera 2's the pink triangular object lower-right. If selected, it shows a target marker around which you can easily rotate it. Rendering is high quality, but anti-aliasing makes low-res images rather soft. Lens length, f-Stop and focus can be set easily, but out-of-focus areas break up badly. You can use backgrounds and environmental maps, but no atmospheric effects are available.



Infini-D Rendering

As many views and cameras as you require can be set in *Infini-D* and, if you have the processor, they can all be set to near RayTrace quality. Normally QuickShade is sufficient. All cameras are shown as 3D objects which can be easily moved and 'pointed-at' any object or direction. Lens length can be varied but not f-stop. Rendering is very good with three levels of anti-aliasing. Backgrounds can be set to any colour, and environmental maps used. Variable levels of Fog can be used.



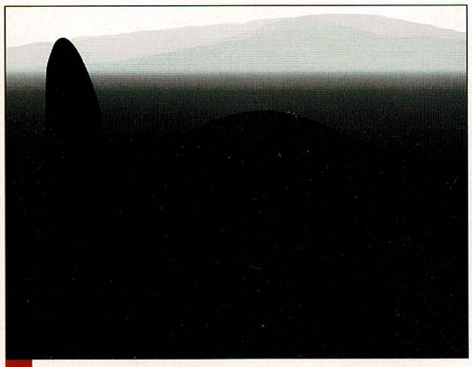
RayDream Designer Rendering

With *RayDream Designer* numerous cameras can be set – manipulated using the physical objects in the perspective window workspace or via the Camera Settings window. Only one view is displayed at a time. Cameras can be easily 'pointed-at' any object. Lens length is easily changed but not f-stop. Rendering is good and there's an excellent oversampling technique for anti-aliasing. Background colour and image can be controlled but environment mapping isn't provided. Variable levels of Fog can be used.

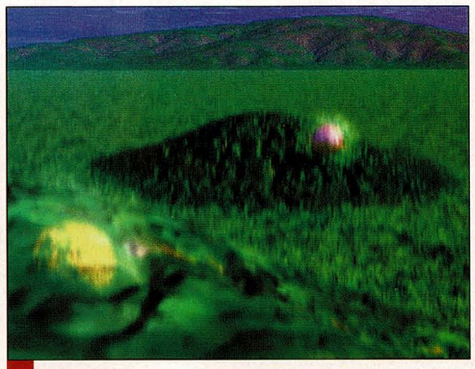
Channels and things?

Clever ways to add elements seamlessly and play with the depth and focus of your image.

1 Clipping and Alpha Channels
The Alpha channel shown here is a simple black and white anti-aliased mask which ensures that the bicycle will paste perfectly into the final image without any edge effects. Most programs will render this additional channel automatically. If any parts of the image had been transparent, the alpha channel would have compensated with grey areas to allow the background to show through partially.



2 Depth-of-Field Channel
Several programs – *Showplace*, *Sketch*, *KPT Bryce* and *RayDream Designer* – have the ability to create a depth-of-field effect. *Showplace* and *Sketch* can both use a variable shutter aperture while rendering, giving focused and blurred areas of limited effectiveness. *Bryce* and *RayDream Designer* render an additional 'depth' channel allowing variable, depth dependent blur to be added later.



3 Other Effects Channels
Clipping and depth channels can be used to produce other effects including reversing the depth (blurring the foreground), motion blur of objects or (as in this example) foreground, depth cueing (darkening the distance) etc. *RayDream Designer* can create up to 12 'G-Buffer channels' that enable many 3D post-rendering image processing effects to be added even in a 2D program like *Photoshop* ie adding extra directional lighting.

grow from the crude wireframes is a similar experience to photography, but as with printing a photo it takes a lot of skill and dozens of trial efforts before you achieve a perfect image.

To help us understand this process a little better, let's make a closer comparison between photography and computer 3D rendering.

Which Camera and Film?

Whether you are standing a friend in front of a view for a snapshot or setting up an elaborate studio shoot, you and your camera are making a whole series of important decisions. Before you even start you have to select which camera to use – a home-made pinhole one, auto-everything, compact, SLR, plate, panorama – and which film to put in it – negative or transparency, fast or slow, Kodak or Fuji, black and white or colour. These choices can be compared closely to rendering decisions such as which shading method – Gouraud, Phong, Ray-tracing or Radiosity – and which resolution – thumbnail, screen, PAL video, 300dpi print – to set.

Camera Navigation

Okay. So now you have your camera and film, where are you going to stand, sit, crouch, or lie? How many cameras will you use? Which direction will you point and at what angle? Navigating a camera on the ground is easy. Your body makes an amazingly flexible platform to shoot from and modern tripods are almost as good. But what about aerial shots? Helicopters are extremely expensive and hang-gliding is just a tad dangerous! Navigating a computer viewpoint is usually much easier. All 3D systems allow the 'camera' to be moved to any point in the 3D world and to be pointed in any direction, some as intuitively as moving your head or body, others as mechanically as moving a tripod. Some even provide a means to point the camera at a specific object – though ideally this should be a basic ability of every program.

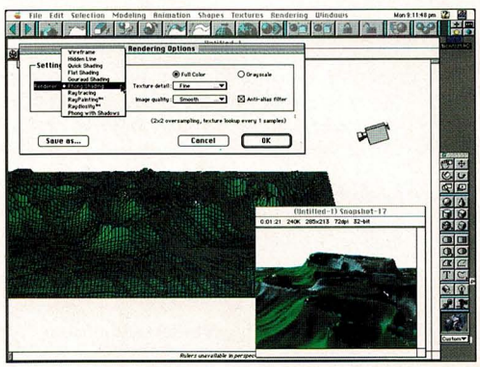
Camera Controls

Before you press the shutter release, either you or your camera have even more options to select – lens, shutter speed, aperture (f-setting) and focus range. Use it creatively, and you can control almost every aspect of the image. The focal length of the lens you choose

3D – The Works

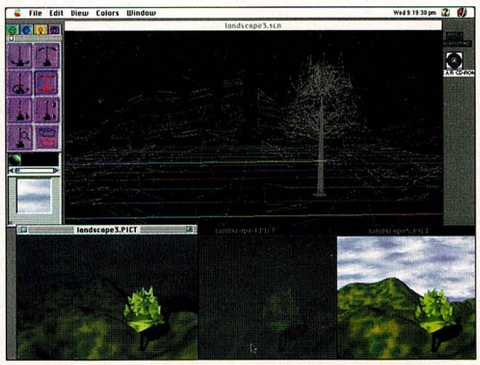
This is the fifth part of our 3D series. We started in MacFormat 21 with an introduction to 3D and the various stages of 3D illustration. In subsequent issues the series has covered 3D modelling, texturing and scene-building and lighting. If you missed any of these issues you can order them now on page 108. Next month the series concludes with a guide to 3D animation – don't miss it!

Continued on next page



***StrataStudioPro* Rendering**
Numerous views and cameras can be set in *StudioPro*, set to a QuickShade render if required. All cameras are shown as 3D objects which can be easily moved and 'pointed-at' any object. Lens length can be varied but not f-stop. Rendering is excellent with numerous modes – including radiosity – and two levels of oversampling plus anti-aliasing. Backgrounds can be set to any colour or image, and environmental maps used. Variable levels of Fog can be set.

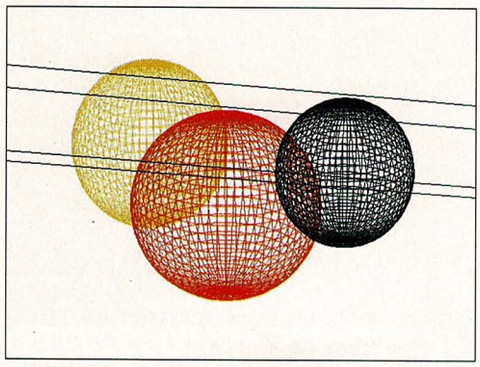
***KPT Bryce* Rendering**
At first sight *KPT Bryce* seems rather gimmicky. In fact it is an astonishingly powerful but specialised renderer. Many views can be set but only one is visible, though flipping views is very easy. The camera is shown in the scene and can be moved and directed there but the through-the-lens controls are easier. Lens length is variable but not f-stop, though depth effects can be achieved using an alpha channel. Atmospheric effects are amazing, including separate fog, haze and cloud controls.



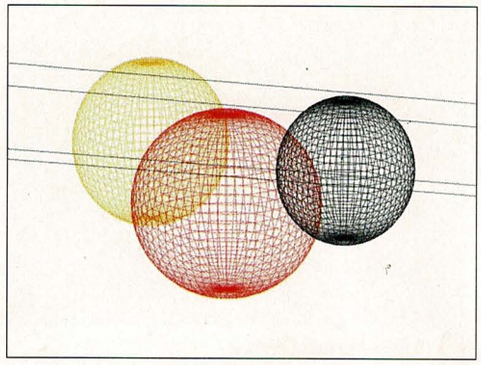
***Pixar Showplace* Rendering**
Showplace uses Pixar's *RenderMan* as a render engine. This produces fantastic results of the highest sophistication including soft shadows, depth-of-focus effects, and excellent oversampling anti-aliasing. *Showplace* is more limited as a modeller however as it is intended just for placing clip objects and simple shapes. Backgrounds have to be mapped onto an object and placed; environment or reflection maps are only attached to objects. Fog and depth cues can be set in the Render Setup window.

Render modes

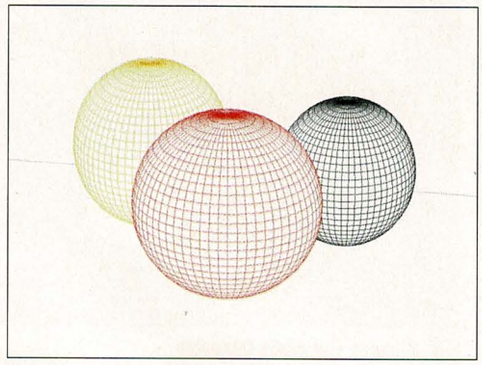
From the most basic to the most complex, here is a guide to the various render modes that you are likely to encounter.



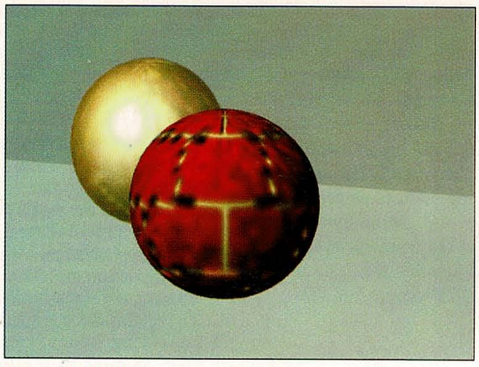
Wireframe
The fastest rendering method, using lines to represent object shapes, showing all sides, even features that should be obscured by the object. No lighting, texture or surface effects are visible but all pixel stepping is visible. (*Strata StudioPro* was used to produce these render modes, having the most comprehensive range.)



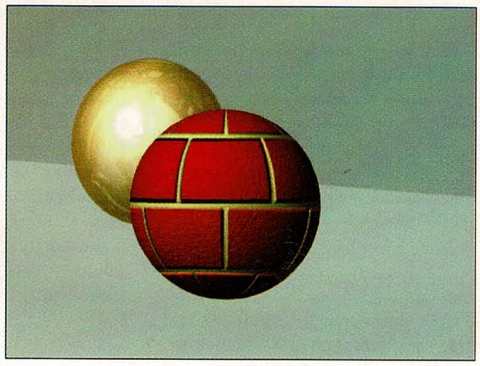
Wireframe with Anti-Aliasing
Sophisticated super-sampling anti-aliasing is used here to smooth the 'jaggies'. This means rendering the image with a much higher resolution than needed, then reducing the excess data to the size required. After rendering you can also use pixel averaging along diagonals and edges. This is cruder and tends to blur the image.



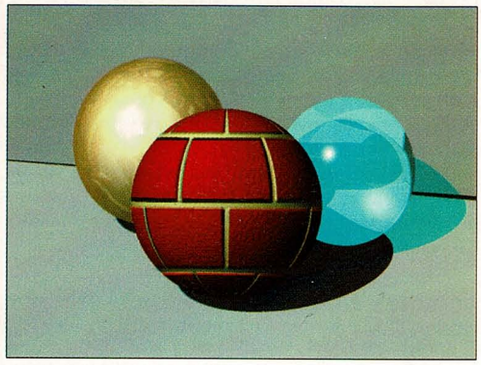
Wireframe with Hidden Line Removal
Hidden line removal represents objects as solids by removing features that would normally be obscured from this viewpoint. This is a reasonably fast render and it makes it much easier to read the orientation of objects. No lighting, shading or surface texture effects are displayed.



Gouraud Shading
To produce a smooth surface, take the colour information for each face and produce a gradation between each adjacent pair. The details blur completely but you get a fair approximation of the final image. Colour, surface texture, lighting, and environment mapped reflections can all be considered, but not transparency.



Phong Shading
It's possible to resolve far more detail with Phong Shading than with Goraud Shading: calculate the orientation of each face and then interpolate a series of extra faces or 'samples' between each pair. Using this method takes a while to render but it's faster than Ray Tracing techniques. Transparency cannot be represented.



Ray Tracing
Tracing light backward through the model from each pixel to a surface/light source to determine its colour gives an accurate render. If repeated reflections from shiny surfaces, refractions and colour absorption in transparent surfaces, light intensities and shadows are accounted for, the image seems photo-realistic.

sets the relative size of distant and near objects – the flattening and edge distorting effect of wide angle lenses, and the foreshortening effect of telephoto lenses, are both powerful compositional tools. The balance between focus, shutter speed and f-stop enables certain objects to stand out, sharp against a blurred background, or perhaps silhouetted against a bright sky. And the whole image can be focused, pin-sharp from foreground to infinity. Theoretically, the computer 'camera' and lenses can simulate all of these effects and more; although only the most sophisticated programs will allow the aperture to be anything other than a tiny pinhole, so focus is generally sharp throughout the image. However, several programs enable separate 'alpha' channels to be rendered with the result that depth-of-field and other effects can be added 'post-render' using image processing tools either within the program or provided by other specialised packages.

Software used

There are dozens of 3D modelling, rendering or animation programs available for the Mac and it is impossible for us to describe them all. For the last few issues we have used *Alias Sketch v2.0*, *Specular Infini-D*, *StrataStudio Pro*, and *RayDream Designer v3.1.1* – these are all up-to-date and run native on the PowerMac. This month *KPT Bryce* and *Pixar Showplace* are also featured because native versions of these are now available.

Film/Image Processing

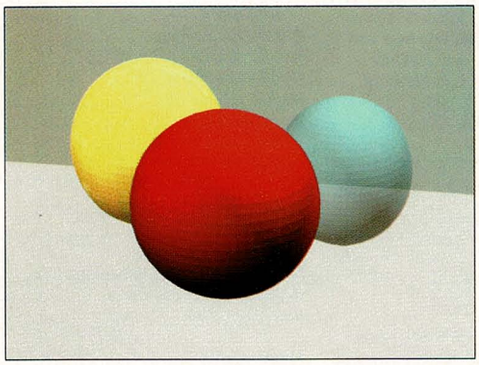
Once the shutter's been pressed, the film is exposed, awaiting the 'wet', the photographic equivalent of image processing. Over the years a huge range of chemical techniques have been evolved to transform the film and print processing stages

Pixar MacRenderMan

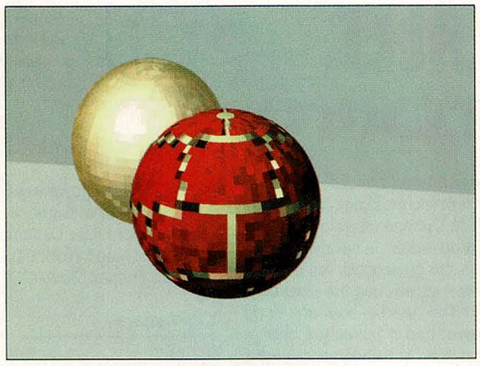
Pixar *Showplace*, which is discussed here, is the modelling and scene setting front-end of the Pixar system. The photo-realistic rendering, however, is carried out by *MacRenderMan*, a dedicated renderer which comes in the same package as *Showplace*. Capitalising on their success with movie special effects and short films like *Reds Dream* and *Tin Toy*, Pixar have developed the render engine they originally used for those commercial ventures into a system designed to be a standard for a number of platforms. As well as being an excellent renderer, *RenderMan's* value is that it has been accepted as a standard render engine for a number of modelling applications. These applications can save models and scenes in the RIB file format; consequently, rendering can take place on another, more powerful platform.

Fractal Design Poser

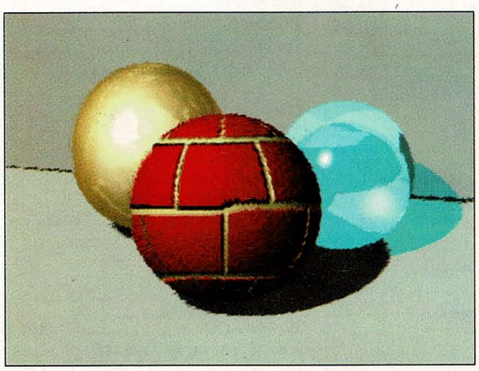
In keeping with their 'natural' approach to digital art materials, Fractal Design – the producers of *Painter* – have developed a 3D program called *Poser* to simplify the creation and posing of human forms. Like the artist's traditional wooden manikin, *Poser* allows a human form to be posed in almost any position. Unlike the traditional manikin, *Poser* provides a library of different forms, allowing height, build, age, sex and other characteristics to be set and varied easily. A dynamic, hierarchical system is used, linking the various body parts so that they can be moved easily and logically, arm following hand, leg following foot etc. Once posed, models can be lit, textured with surface and bump maps, then exported to other 2D or 3D programs in RIB, DXF or Pict format.



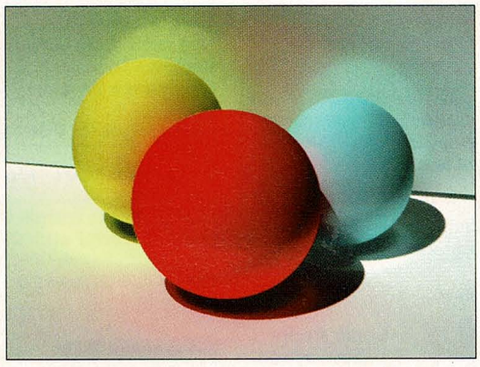
Quick Shading
Each polygonal surface of the object's given a colour, based on its orientation relative to the source of illumination and its base colour attribute. It's reasonably accurate but discontinuities of shading can occur. This is slower to render than 'line' methods, but it's still very quick. No surface texture effects are displayed.



Flat Shading
One colour is calculated for each polygonal face taking colour, surface texture, environment mapped reflections and lighting into account. Transparency cannot be calculated without ray tracing, so the transparent object here is missing. This render method is relatively fast but produces objects with a faceted appearance.



Ray Painting
Several 3D programs (including *StudioPro*, shown here) are including 'natural media' tools to apply paint, chalk, crayon and other artistic materials to the 3D surfaces. Rendering uses ray tracing techniques then applies the medium using the 3D orientation of the surface to control the stroke direction etc.



Radiosity (Raydiosity)
Of all photo-realistic effects, 'inter-object diffuse illumination' is the hardest and slowest to render. In effect, Radiosity (*Strata* calls it Raydiosity) calculates the distribution of light energy throughout the scene. It is especially effective with diffuse lighting. Radiosity can also calculate the soft penumbra around shadows.

of the photographic process. 'Pushing' the exposure one or two f-stops either way during film processing, or adding visual effects like 'solarising' during printing, are just two of many possibilities.

The alpha channels most programs create during rendering can be used to place an object smoothly into a new background (even a true photograph) or to apply motion blur. Alpha channels can also contain a wealth of other information including the transparency of an object (allowing a new background to show through), and the position of shadows (so shadows can be cast on new surroundings). Other post-render image processing effects include anti-aliasing, sharpening, and paint effects like watercolour, posterise and solarise. In fact all of the possible 'chemical' effects and much more.

Digital Imaging

It is at this point that photography and 3D rendering become inseparably blended. As 3D software becomes even more realistic, easy to use, and fast, virtual photography becomes a reality. The arrival of *KPT Bryce* points the way here. With a little care, you can create landscapes in *Bryce* that are virtually indistinguishable from the real thing. With a little more refinement programs like *Pixar Showplace* will do the same thing for studio still life shots. What next – fashion photography? The human form may prove a little harder to simulate, or did I hear something about Fractal Design's *Poser*? **MF**

Where can you get them?

- *Alias Sketch 2.0* costs £720. For more details contact Gomark on 0171 731 7930.
- Fractal Design *Poser* is due later this year. For more details contact Letraset on 0171 928 6351.
- *KPT Bryce* costs £150. For more details contact Principal on 01706 832000.
- Pixar *Showplace* and *RenderMan* come in one package, costing £375. For more details contact Letraset on 0171 928 6351.
- *RayDream Designer 3.1* costs £323.13. For more details contact Principal on 01706 832000.
- Specular *Infini-D* costs £572.23. For more details contact Gomark on 0171 731 7930.
- *StrataStudio Pro* costs £1,194.98. For more details contact Gomark on 0171 731 7930.

Jargon Busters

Alpha Channel
This is a separate 8-bit greyscale image within a document which is used for isolating, modifying, and storing masks. Each shade of grey represents a level of transparency in the mask – black is completely opaque, white is completely transparent.

Anti-Aliasing
All computer painted or rendered – bitmapped – images are actually composed of a fine patchwork of tiny squares called 'pixels' (short for 'picture elements'). A diagonal line or edge can therefore look stepped or jagged. Removing this stepped effect is called anti-aliasing. There are two main methods: Over Sampling and Area Sampling.

With Area Sampling, the area around the step is examined, and the colours of the pixels at the step are changed to an average tone to disguise it. This can be carried out after rendering but it causes the edges to look rather blurred. Over Sampling is more accurate: you render detailed areas of the scene at a much higher resolution than you actually need. When the image is displayed at the lower resolution, imperfections can be averaged out accurately because there is more data to work from.

Environmental Maps
The more objects present in a model, the more memory it will take up and the longer it will take to render. When rendering, therefore, all objects out of sight should be removed or hidden. However, reflective surfaces can only look realistic if they are reflecting something! An Environment map can be that something – usually a bitmap image or colour gradient surrounding the scene but hidden from the viewer except where it is reflected from a shiny surface.

Posterise
The limited tonal variations that are possible in most cheap printing methods, such as screen printing, mean that images produced in this way use large flat blocks of colour to represent areas that in reality contain many small variations of tone. An image processing program is able to simulate this effect by initially automatically reducing the range of tonal values, and then by choosing an average colour to replace them. This is known as Posterising.

Solarise
In conventional photography, briefly exposing a print (or negative plate) to light during development produces an effect referred to as Solarising – a washed-out look. An image processing program can be used to simulate this effect by blending the negative and positive versions of an image, to a certain degree.

Render
A modern, sophisticated 3D modelling program can create a vast amount of information about a scene describing it exactly, but the information is contained in the computer's memory in a form that is unintelligible to normal mortals like you or me. Only when the information is translated into an image on the monitor screen can we understand it. This process of translation from data to image is called Rendering.

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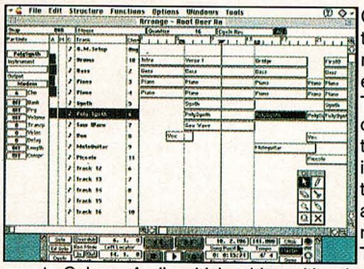

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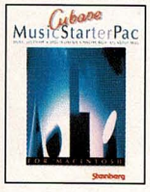

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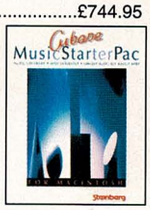

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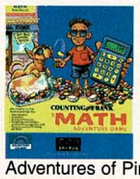

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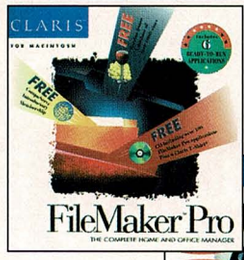

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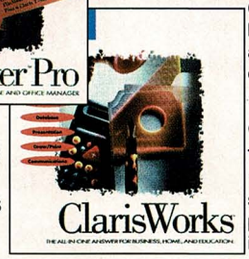

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Type or graphic?

Whether you're designing a flyer or a newsletter, your Mac's DTP power gives you a host of type effects to choose from. So, Alex Summersby asks, is it design that matters or sense?

One of the important features that distinguishes desktop publishing from word processing is the ability to handle type graphically, as a design element. I mean, imagine you wanted to design a poster or a flyer. Given the choice, if you wanted the broadest range of typographic options and the finest control over them, you'd be silly not to opt for a DTP package (whether it was *PageMaker* or *HomePublisher*) over a word processor (whether that was *SimpleText* or *Microsoft Word* – though with high-end 'document processors' you're approaching the levels of features you'd expect in DTP packages).

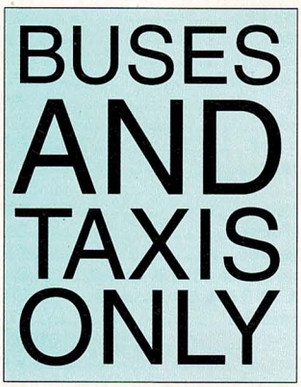
At the same time, simple effects are often the most significant, so there's still a lot that word processors can do for you. Take the most fundamental design decision: your choice of font. Now that *SimpleText* has superseded *TeachText*, even the most rudimentary word processor gives you a choice of fonts. So right from the outset you have a potential conflict: do you select a font for mere legibility, or do you pick one for its character, its value as a design element?

Of course you balance the two considerations, the graphic and the typographic. If your concern is purely legibility, you might very well use Helvetica or something very like it – but then everything ends up looking like a DSS leaflet or Pay and Display sign. Is that the 'feel' you want your document or poster to have?

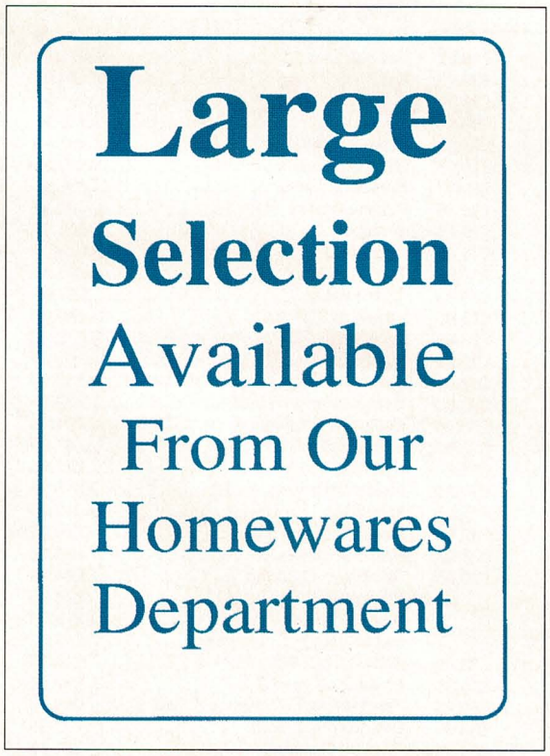
Quite subtle variations between fonts can produce perceptible differences in character – that's why there are so many versions of Times and similar fonts. Not many people can identify whether a font is Times or Garamond or Palatino; but designers are right to spend time and creative energy choosing between them. You may not recognise MACFORMAT's body text font as Meridien Roman, but set it against something that uses Times (like *The Times* newspaper) and the difference in personality is immediately obvious. Our font is friendlier and more open – well, we like to think so. The reason is that Meridien is actually broader than Times at the same size. In surveys, readers consistently say fonts with broader, rounder faces seem warmer and less formal – one reason that Souvenir was so popular in the '70s. In the same way, fonts with a greater 'x-

FONTASTIC!

Bored with the fonts you already have? You can nearly always find new fonts on the MACFORMAT CD-ROM or disk to play with, and there are loads to be taken off the Internet (see our regular shareware reviews, this issue on page 109). Unfortunately we can't guarantee their legibility or usefulness...



The size of text is analogous to the stress you'd give it if it were spoken, or how loudly you'd speak it, so different sizes suggest different emphases. This style of using text to fill the space available was very fashionable among designers ten years ago (and in the '20s before that), but to my eye it jars because the emphases fall in the wrong places: the word 'and' is the largest of the lot, but surely not the most important.

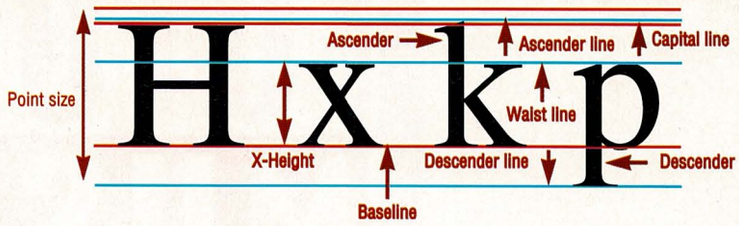


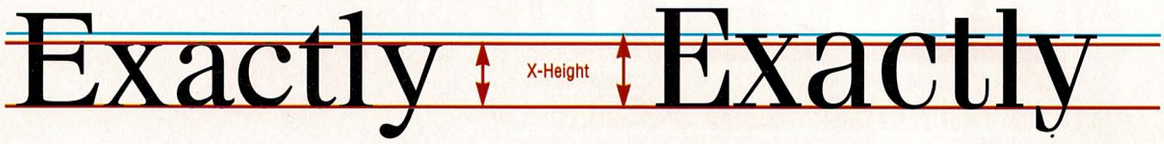
In these posters from MACFORMAT's local Co-op, the designer has established a distinctive look by simple typographic effects – big emboldened text for the first line, smaller bold for the second, and so on. The beauty of these simple effects is that you can achieve them without having to invest in a DTP program – in fact, it looks very likely that they haven't here: a DTP program would have enabled them to reduce the kerning (or spacing) between the first two letters in 'Available' to make it more visually appealing.

Consistent use of the same typographic effects gives all the shop's posters a recognisable 'house style'. This is a good thing in design terms, but it means that the emphasis added by size and boldness doesn't necessarily correlate with meaning. In this second example, the words 'Large and' are not really more important than the rest (certainly the 'and' isn't), and it doesn't make much sense to emphasise 'Vastly' more than 'Improved'. But you can spot at once that the two posters belong to the same place – the consistency of design creates a corporate identity which is more important.

JUST A POINT ABOUT HEIGHT

The size of text is conventionally measured in points, with 72 points to the inch. This text is 7.5 point Meridien Medium. However, point size is not the whole story. As the diagram demonstrates, the point size tells you the overall vertical space that all the letters in the font fill up, but fonts vary in 'x-height' – the size of letters such as x, n and o, without ascenders (as in d) or descenders (as in p). Compare 72 point Times with 72 point ITC Fenice below and the latter seems much bigger, though line by line it takes up no more room.





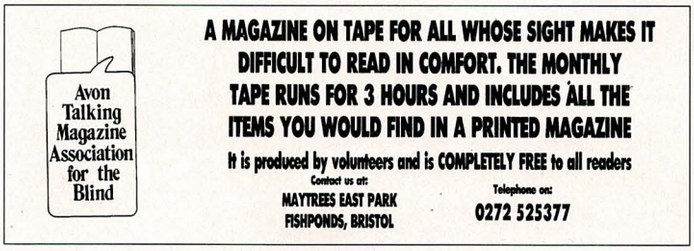
The point size of a font is usually measured from the highest ascender to the lowest descender, plus a bit – what the designer chooses as the 'body clearance' when the font is 'set solid' (with no extra leading).

height' (see the box above) can seem squashed and thus *less* friendly, even though they're in effect bigger without taking up any more space line for line.

Today, Souvenir probably seems a bit passé, but that's ideal if you want to evoke a '70s atmosphere. Other fonts are even more strongly associated with a particular period or ambience. If you want to add some Roaring '20s style, you'll use a font like Broadway Engraved (from Bitstream), or Soho (from Font Foundry) or Ritz (illustrated here). For a Wild West effect, you'd choose something like Bitstream's PT Barnum. To suggest the old Germanic, you could try any of the families called Gotisch, Blackletter or Fraktur. And of course any 'modern' computer-like font will give you a very '60s feel.

The names will inevitably vary from font producer to font producer, so finding the one you want may not be as straightforward as deciding on Souvenir. But your choice will do much to determine the character of your publication or poster. And that's even before you make any decisions about how to *use* your text – layout, scaling, spacing, and all those other 'design' considerations.

On these pages are some examples of type used graphically. Some of the effects and techniques are very simple ones, but sometimes it is precisely these that illustrate the potential conflict between the graphic and the typographic, or between design and sense. **MF**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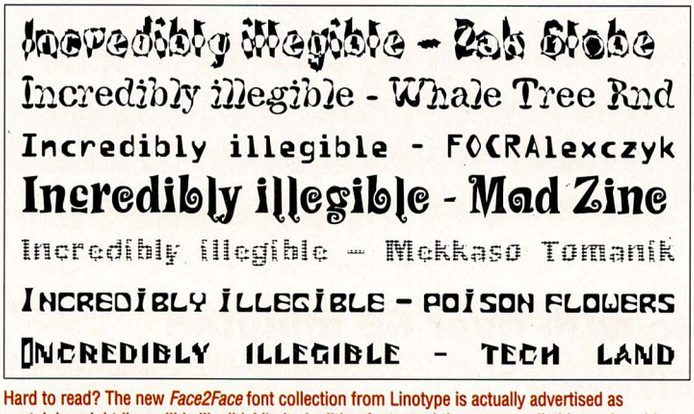
This Badgerline Bus Advertising poster has generated a good response, says the worthy charity it advertises. But tests have shown that text with a mixture of upper and lower case type is more legible than text in all caps, and condensed faces are hardest of all. Perhaps the response has been good because it makes you empathise with those who find it 'difficult to read in comfort'.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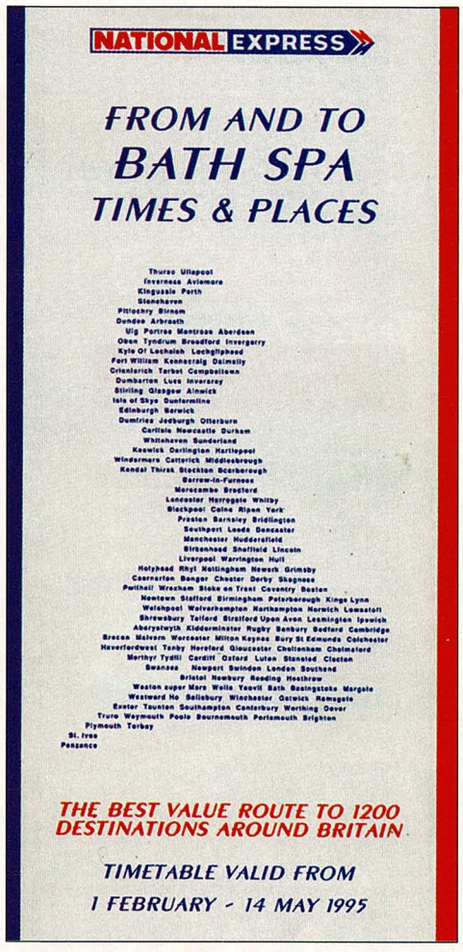
INCREDIBLY ILLEGIBLE - TECH LAND

Hard to read? The new *Face2Face* font collection from Linotype is actually advertised as containing eight 'incredibly illegible' limited edition fonts, and they are supplied in a tube with a special poster and T-shirt. We're so far into the territory of design here that we're talking about fonts as lifestyle accessories – mere communication is simply not on the agenda.

Right up to date

Type is not simply a transparent vessel for the message you want to communicate. The character of the font you choose can evoke a particular atmosphere and thus add a more or less ironic meaning to what you're trying to say...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TIMES & PLACES
THE BEST VALUE ROUTE TO 1200 DESTINATIONS AROUND BRITAIN
TIMETABLE VALID FROM
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A striking example of text as design – the names of places you can reach by National Express coach arranged (roughly geographically) to form a map of the UK. It's an idea that seems so simple once you see it done, but it's been executed very skilfully, down to the slight gap representing the Bristol Channel (between Swansea and Newport, Merthyr Tydfil and Cardiff, Tenby and Hereford). Pity about the font used for the surrounding text – am I the only one who thinks it looks very dated?

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The sound of music

With QuickTime 2, you don't need a synthesizer to play MIDI files on your Mac. Ian Waugh not only shows you how... but nice guy he is, gives a lot of extra sound advice as well.

NEWCOMERS START HERE

Standard MIDI Files – or SMFs – are the Esperanto of sequencers. Although every sequencer saves music data in its own format, all the major programs can also save and load SMFs. This enables virtually any MIDI file to be ported from one sequencer to another, even to one on another computer platform.

Over the past few years a small but substantial cottage industry has grown up around the creation of MIDI files, but one problem remained to be solved. MIDI files can contain not only the actual notes the music parts are to play but also Program Change numbers which tell the synthesizer which sounds to use.

This is fine if the user has the same instrument as the MIDI file programmer, but if they don't the bass line could end up playing on a saxophone, the piano part could use a bird sound and so on.

To avoid this problem, a set of sounds was developed known as General MIDI. This is a worldwide standard which specifies that all General MIDI instruments contain a certain uniform set of sounds with standard Program Change numbers, so a MIDI file played on any General MIDI instrument will play with the same sounds – piano playing the piano part, and so on.

There are 128 General MIDI sounds, divided into these 16 groups:
Piano
Chromatic Percussion
Organ
Guitar
Bass
Strings
Ensemble
Brass
Reed
Pipe
Synth lead
Synth pad
Synth effects
Ethnic
Percussive
Sound effects

The range of sounds within each group is varied enough to produce quite convincing and realistic arrangements.

There are currently several dozen General MIDI (GM) units on the market, ranging from dedicated GM modules to synths and portable keyboards with a set of GM voices. Any MIDI file configured to GM will sound roughly the same when played on any of these instruments.

With the recent release of QuickTime 2, Apple has added several new features to the movie-playing Extension. One such feature, which has remained largely undocumented, is the ability to play Standard MIDI files through the Mac without requiring any additional hardware.

Make sweet music with the *All Midi* program on this month's cover disk

Previously, you would have needed a sound module costing upwards of £300. All you need now is QuickTime 2 plus the *QuickTime Musical Instruments* Extension which comes with it. This contains samples of around 40 instruments licensed from Roland, one of the companies which helped develop the General MIDI standard (see the box to the left).

As with many aspects of QuickTime, however, you don't interact with the Extension directly but through a utility program such as *All MIDI*, which is on this month's cover disk. This will convert a Standard MIDI File configured to General MIDI into a stand-alone QuickTime movie. It won't contain any images, of course, but you can play the file using any QuickTime player such as *MoviePlayer* and embed it into documents produced with applications such as Microsoft *Word*.

QuickMovie is another program which can play QuickTime movies and it is also on this month's disk. It includes a facility to enable you to change the sounds assigned to the instrument parts.

There are a couple of limitations with *QuickTime Musical Instruments*, however. A GM sound module typically contains 4 or 8Mb of samples. The *QuickTime Musical Instruments* Extension is only 430K and, as you might expect, a few corners have been cut. The samples have been quite heavily compressed and there are only 42 of them, so many sounds use the same sample. How this affects the music depends upon the sounds the music requires. For example, many of the string sounds use the same sample, as do many of the guitars. The seashore and applause effects are the same, too.

But the results can still be very impressive, especially when you consider that two pieces of software are doing the work of a MIDI file player and a GM module. Now you can download MIDI files from Bulletin Boards and the Net, play them on your Mac, use them in documents and in multimedia applications.

There are more hints on converting MIDI files in the MIDI Files folder on the cover disk, including a complete list of General MIDI sounds.

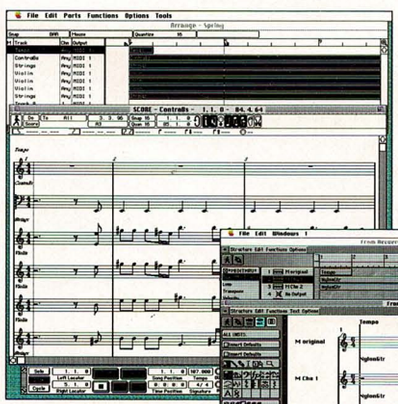
SPEED

Using the QuickTime PowerPlug Extension can dramatically improve movie play back on PowerMacs.

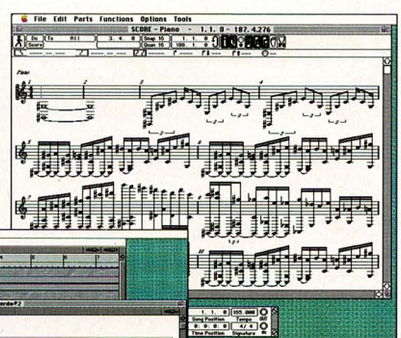
MIDI ORIGINS

MIDI was originally developed to enable keyboards to talk to each other. Using it for recording with a sequencer was a by-product and became possible simply because it uses digital information.

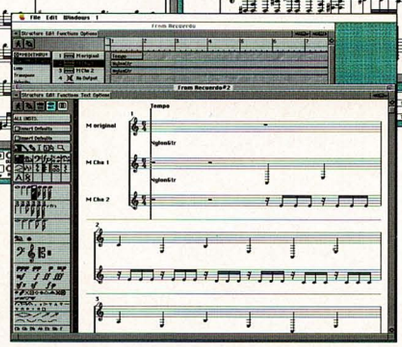
Continued on next page



Vivaldi's *Spring* as it appears in *Cubase Lite*. Using *QuickMovie* it's possible to convert this into a QuickTime audio-only movie.



A MIDI File of Frederick Chopin's *Fantasy Impromptu* in *Cubase Lite* – an adept display of pyrotechnical virtuosity, if ever I've seen one.



Notator Logic and a notation view of a piece for Spanish guitar, as found on this month's cover disk.

JARGON BUSTERS

Extensions: Small utility programs placed inside the System folder which increase the capabilities of the Mac.

MCPS: Mechanical Copyright Protection Society – an organisation representing music publishers and writers which sets royalty fees and collects royalties due on music works.

MIDI: Musical Instrument Digital Interface – essentially a communications protocol to enable music information to be passed between various devices.

THE MIDI FILE COPYRIGHT ISSUE

According to law, anyone who creates a work of art such as writing a song or piece of music has the exclusive right to decide how that work will be copied – hence the term copyright.

Prior to 1 January 1995, you could produce and sell a MIDI file of any song but you had to send a percentage of the price, around 10%, to the Mechanical Copyright Protection Society (MCPS), who would then distribute the money to the copyright owners. The labourer is worthy of his hire and all that.

But on 1 January, the rules changed. The situation is now very complex and tied up with a lot of legal mumbo-jumbo (career tip: become a solicitor!) but what it essentially boils down to is this: the MCPS decided that the previous rules did not cover certain 'copying rights'. These include the right to print out the score from a MIDI file, display lyrics on screen and adapt the file by changing its pitch and tempo. Consequently, the royalties were substanstially increased to 15.5% of the retail price, which amounts to a hefty 22-23% of dealer price.

Furthermore, all titles now require prior permission from the copyright holder before they can be put into MIDI file format. Many artists have already refused permission including Simply Red, Pet Shop Boys, Mike Oldfield, Peter Gabriel, Dire Straits, The Doors, Andrew Lloyd Webber and Billy Joel, among others. Just to make it absolutely clear: it is now a breach of copyright to produce and sell MIDI files of songs by these artists.

What about files produced prior to 1 January? Technically, according to the MCPS, these were sold without the full rights being granted and so are unauthorised – a term you may interpret as 'illegal'. Understandably, there is a considerable amount of confusion and consternation among the companies which produce MIDI files. All of them consider the increase excessive and all have had to remove dozens of songs from their catalogue.

There are two other things the genuine MIDI file companies find annoying. One is that in spite of numerous protests and requests for action, several companies continue to sell pirated MIDI files as their own, robbing both the MCPS and the original file producers. There are also many MIDI files on Bulletin Boards and on the Net which are there illegally. (There are also files of songs and music which are out of copyright and are there legally.)

The situation is in hand. The on-line service CompuServe is now very aware of the situation and one or two prosecutions of MIDI file pirates are in process. However, the MCPS seems to put a higher priority on clamping down on genuine MIDI file producers than in tackling the bandits.

The MCPS states that it sees the increase in fees as commensurate with the additional rights it is giving buyers. But on the one hand these 'rights' allow you to do what was inherent in MIDI files all along, and, on the other, how many MIDI file buyers would actually use the files to print music or show lyrics on the screen anyway?

The MCPS states it is simply a trying to acquire the best deal it can for its members. The MIDI files companies see it as another case of the big boys in the music business smelling money and trying to milk the situation. Ultimately, it is the consumer who will pay, both financially and through having a smaller number of files to choose from.

A LONG TIME DEAD

Currently, a piece of music is out of copyright 50 years after the death of the copyright holder, who is usually the composer. New moves are afoot, however, to increase the time period to 70 years. It's something to do with European standards...

DID YOU KNOW?

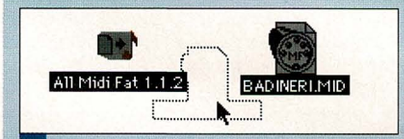
The 1988 Copyright, Designs and Patent Act gives composers a Moral Right to object to any treatment of their work which they consider derogatory.

MORE MIDI

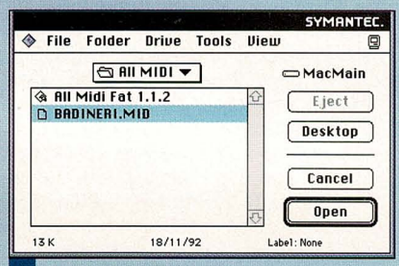
For more background information about MIDI, synths and sequencers, you could do worse than check out MACFORMAT 15.

MIDI FILE TO QUICKTIME CONVERSION

Want to play MIDI files with no MIDI kit attached to your Mac? All you need is on the cover disk...

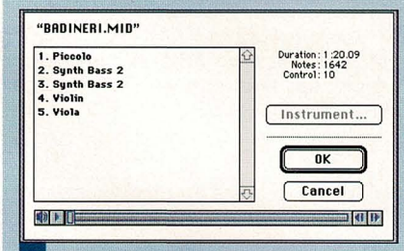


1 On this month's MACFORMAT cover disk, you'll find the *All MIDI* converter. *All MIDI* supports drag and drop, so the easiest way to convert a MIDI file is simply to drag it onto the **All MIDI** icon.

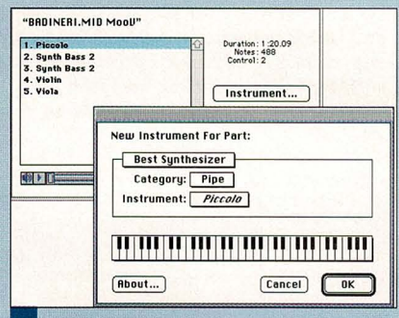


2 *All MIDI* has a **File** menu so you can also open a MIDI file in the usual way.

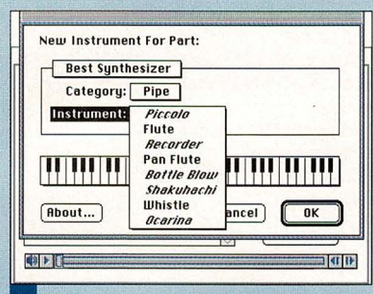
3 The conversion process is automatic and the program creates a Moov file (the standard QuickTime format). If you've got *QuickMovie* installed (it's also on the disk!), this.icon will appear.



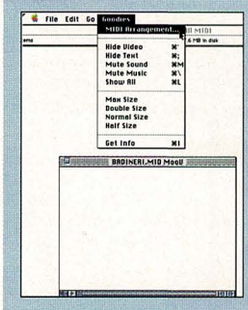
4 Hold down the **[option]** key when you drag or open the MIDI file and you will see a list of tracks and the instruments assigned to them.



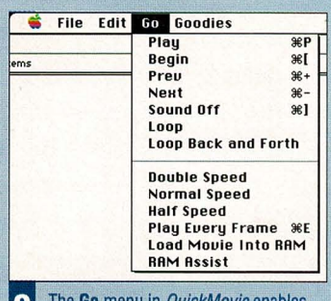
5 Highlight a track and click on the **Instrument** button, and you can select another instrument. Try the sound by clicking on the keyboard.



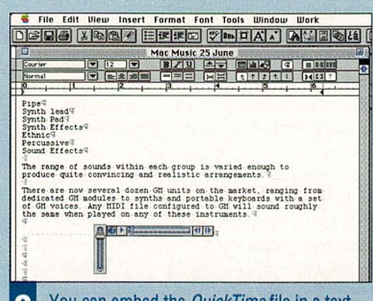
6 The Badinerie piece should use a Flute, not a Piccolo, but the **Instrument** pop-up menu shows some names in italics, meaning they share a sample. In this case, the sounds are the same.



7 Open a converted file with *QuickMovie* and select **MIDI Arrangement** from the **Goodies** menu. This brings up the **Instrument Selection** window, which enables you to change the sounds.



8 The **Go** menu in *QuickMovie* enables you to loop the playback and change the speed, just for fun...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The range of sounds within each group is varied enough to produce quite convincing and realistic arrangements.
There are now several dozen GM units on the market, ranging from dedicated GM modules to synths and portable keyboards with a set of GM voices. Any MIDI file configured to GM will sound roughly the same when played on any of these instruments.

9 You can embed the *QuickTime* file in a text document created in, say, Microsoft *Word* using the **Movie...** function in the **Insert** menu.

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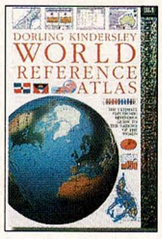

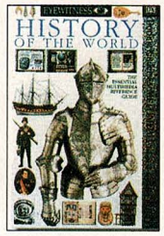

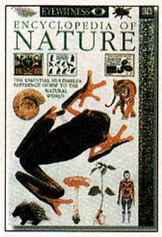

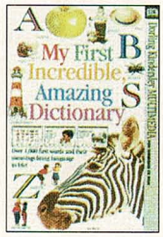

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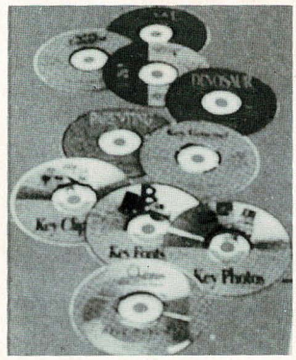

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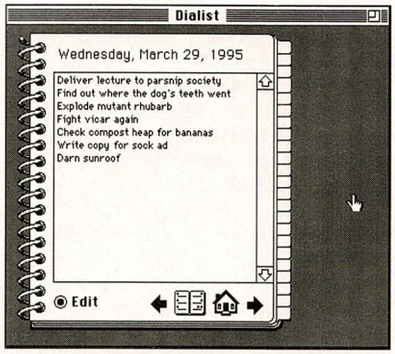


This month's stack is called *DiaList*, and it's a combination of Diary and Job List.

DiaList for order

This month's coverdisk stack is a personal organiser with a difference – it won't let you sweep jobs under the carpet! It also demonstrates some sneaky HyperTalk tricks...

Most of us have a million and one things to do, every day of the week. And if you try to carry them all around in your head, jobs get overlooked, or put to one side until it's far too late to do anything about them.

Hence the invention of the Lawton™ Organising System. The principle is quite simple. Whenever a job arises, you choose the day you're going to do it and write it down in your diary. This means that jobs don't get forgotten, even when you haven't had to think about them for a while. The clever bit is what you do at the end of each day. It's a cast-iron, no-argument rule that every job unfinished at the end of the day has to be transferred to another day. This way, jobs never go away. In fact, it's not long before you're shamed into doing them by seeing the same old faces every day.

You can use the revolutionary Lawton™ Organising System in an ordinary desk diary. Or you can use the new, Mac-based version – *DiaList*.

DiaList isn't just useful as a desktop personal organiser, because it illusrates some useful HyperTalk techniques: manipulating lines of text, date calculation and on-the-fly button-switching.

Manipulating lines of text

HyperCard stores text within fields as 'lines'. Don't confuse these with displayed 'lines', though – *HyperCard* 'lines' are actually paragraphs. God knows why the programmers couldn't call them paragraphs in the first place, but there it is.

A *HyperCard* field can contain many 'lines' (ho hum) of text. The minimum number is one, the maximum is governed by the shortness of these lines and the maximum number of characters allowed in each field (32,000). You can refer to lines by number. For example, you can

```
get line 1 of field "text"
```

This is useful for our organiser stack because we can write out each job on a single line, and move these lines about wholesale from one day to another.

There is one trick you should know, though. When adding a line to a field, instead of just positioning it after the existing text, make sure you refer to a specific line position. This is because the existing text may or may not end with a return character. If there is no return, then the following line

```
put line 5 of field "text" after ¬
field "summary"
```

would simply tack line 5 onto the end of the last line in the field 'summary'. Presumably, though, you want line 5 to go on a new line of its own. You could of course add a return to the existing text to make sure line 5 gets a line of its own – but if there's a return there already, you're going to end up with a blank line.

There is a way round this. *HyperCard* considers a line in a field is 'empty' if it contains no characters – even if that line has a return in it. So when you ask

```
get the number of lines in ¬
field "summary"
```

the number you get back is the number of lines that actually contain text. This means we can write the following to ensure the line we're moving gets a line of its own, straight after the existing text and with no spaces, regardless of whether there's a return character or not:

```
get the number of lines in field ¬
"summary"
put line 5 of field "text" into ¬
line (it+1) of field "summary"
```

To see this technique in action, take a look at the script of the 'job list' field in *DiaList*. After the script has checked to see that you are in Move mode, it carries out this relevant line:

```
put line it of me into line (the¬
number of lines in field "copy ¬
over" + 1) of field "copy over"
```

(This copies the job into a temporary 'holding' field with jobs to be reallocated.)

Try DiaList for yourself – it's on this month's floppy disk

Date calculation

HyperCard is extremely good at personal-organiser type applications, like *DiaList*. HyperTalk contains many time-based functions that can return the current date, tell you how many seconds have elapsed since 1904 and more besides. There are just as many things it can't do, though – really easy things, like 'what's the date tomorrow' and 'what day of the week will it be in ten days' time?' HyperTalk isn't very helpful if you want to write your own date-based applications.

Which is why you have to cheat.

Take a look at the scripts of the two black arrow keys in *DiaList*. Clicking on these takes you to the card for the next (or previous) working day. They do a couple of extra things, actually:

1. If there isn't a card for that day, they very kindly create one for you.
2. They automatically skip weekends.

You can work out how they do (1) and (2) above by examining the scripts, but the main point here is how you can work your way around HyperTalk's limitations. To overcome the complexities of the Gregorian calendar (different numbers of days in different months, leap years, dates falling on different days of the week depending on the year etc.), you can work everything out in seconds and then convert to date format at the last minute.

So, to get 'tomorrow's date', use the following script:

```
get the long date
   convert it to seconds
      add (60*60*24) to it
         convert it to the long ¬
         date
```

Do you see how we cheated? *HyperCard's* convert function usefully swaps time and date formats, and by simply adding a day's worth of seconds (60*60*24) to today's 'seconds' we then get tomorrow's 'seconds', which we can then convert into tomorrow's date. It doesn't matter that there's a big difference in seconds between the start of the day and the end – you will always end up with tomorrow's date.

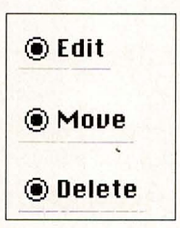
So how do you skip weekends? Simple – you check to see whether 'Friday' is in today's date. We can modify the script above to do this:

```
get the long date
if "Friday" is in it then put ¬
(2*60*60*24) into wkend
else put empty into wkend
convert it to seconds
add (60*60*24) to it
```

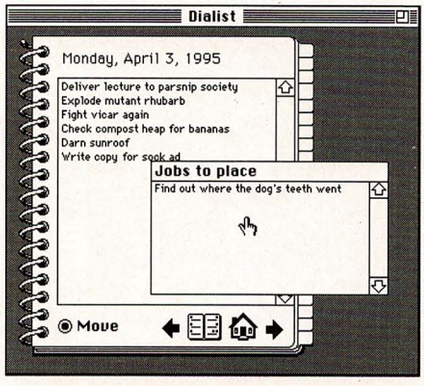
Continued on next page

DRAW THE LINE...

In the scripts listed on these pages, the symbol ¬ means *do not* type a [return] yet – the line simply wouldn't fit in our narrow columns.



Three buttons? No, the same button with three different names...



In 'move' mode, clicking on a job copies it into the **copy over** field, which then becomes visible. To relocate one of these jobs, choose your new date, then click on the job.

```
add wkend to it
convert it to the long date
```

Get the idea? It's not a terribly elegant solution, but it's fast and practical, and it makes handling dates a doddle.

Button-switching

DiaList has three 'modes':

1. Edit: where you can manually edit the 'job list' field
2. Move: where selected jobs are copied to the 'copy over' field for placing elsewhere
3. Delete: where simply clicking on a job deletes it

You change 'mode' by clicking on the button at the bottom left. How is this done – are there three different buttons which are made visible or invisible in turn as you click?

That might seem the obvious way to do this – but there is a simpler way which only involves using one button. If you look at the script you'll see that all it does is change the button's name, depending on its name when it was clicked on. The only other bit of code is there to check to see if you're in 'edit' mode, in which case the 'job list' field needs to be unlocked (and then locked again once you leave 'edit' mode).

Doing it this way not only reduces the number of objects on the card, increasing speed, it works a little faster anyway.

So where's the rest of the code – the code which controls what happens when you click on a job in the 'job list' field? After all, this will vary according to the 'mode' you've chosen.

We couldn't put it in the button script because you don't click on the button when you're manipulating jobs. The only place you can put it is in the 'job list' field's script. Take a look at this script to see how it works. Basically, it checks for the existence of certain buttons. *DiaList* works in three modes, so you'd expect it to check for the existence of buttons with any of these three names, and then react according to which one it found. However, this script only checks for one – why?

Well, this was done to make the script shorter. Now if you're sitting comfortably, here's how it works:

1. Edit mode: Well, the script doesn't have to check for this because when you've selected 'edit' mode the 'job list' field is unlocked – it doesn't even get this `mouseUp` message sent when you click on it. So we can forget that.
2. Move mode: The field script checks to see if there is a button called **Move**. If there is, it copies the line into the **copy over** field, then makes that field visible.
3. Delete mode: If the field script doesn't 'see' a **Move** button it simply deletes the line you've clicked on – that is the only possible option left, after all!

To get back to the main point, it's often useful to give a button two or more names which you cycle through when you click on it. Don't forget that any other script can check for the existence of named buttons. Got it? How about just one more example. You could have a button called alternately **Help On** and **Help Off.** With **Help On** selected, a `mouseEnter` handler in the card script could detect whenever the mouse entered an object (field or button) and display a pop-up field describing the function of that object. A corresponding `mouseLeave` handler could hide the field again as soon as the cursor left the object, meaning that there would never be more than two 'help' fields open at once. **ROD LAWTON**

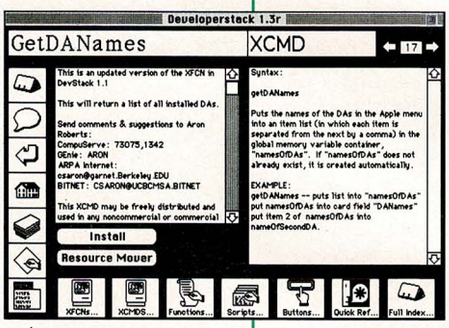
NEXT MONTH

A grudge match that's been rumbling away for years is coming to a head. *SuperCard 2.0* is just out, *HyperCard 2.3* is imminent. *HyperCard* is used by developers everywhere, but those who use *SuperCard* say it's better at everything. Who's right? Read MACFORMAT next month to find out – it might not be the outcome you expect...

Stacks of Stacks on CD... but are they really 'Hyper'?

CD-ROMs and *HyperCard* have one thing in common – they are both amazing pieces of engineering (in hardware and software terms respectively) and so when they are combined they should produce something rather extraordinary. Shouldn't they?

Well, the *Hyper Stacks* CD-ROM is extraordinary, but not for the right reasons. It's a collection of countless PD and shareware *HyperCard* stacks from all sorts of users and sources. Actually, the disc only contains between 300 and 400Mb of material, even though a CD-ROM can hold 650Mb. Nevertheless, this is still more than enough...


Developerstack 1.3r
GetDANames
XCMD
17
This is an updated version of the XFCN in DevStack 1.1
This will return a list of all installed DAs.
Send comments & suggestions to Aron Roberts:
CompuServe: 73075,1342
GEnie: ARON
ARPA Internet:
caaron@garnet.Berkeley.EDU
BITNET: CSARON@UCBCMSA.BITNET
This XCMD may be freely distributed and used in any noncommercial or commercial
Install
Resource Mover
Syntax:
getDANames
Puts the names of the DAs in the Apple menu into an item list (in which each item is separated from the next by a comma) in the global memory variable container, "namesOfDAs". If "namesOfDAs" does not already exist, it is created automatically.
EXAMPLE:
getDANames -- puts list into "namesOfDAs"
put namesOfDAs into card field "DANames"
put item 2 of namesOfDAs into nameOfSecondDA.
XFCNs...
XCMDs...
Functions...
Scripts...
Buttons...
Quick Ref...
Full Index...

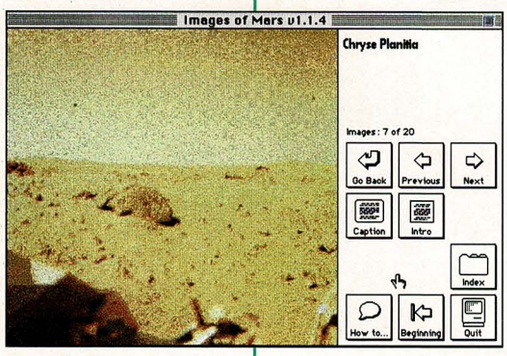
Hyper Stacks contains some worryingly technical stacks... and I'm afraid *Developer Stack* is one of them.

Two things make this disc extraordinary: (i) the sheer number of stacks there are and (ii) the soul-deadening banality of 90% of them. Now I know why the Mac industry doesn't bother to take *HyperCard* seriously.

That said, there are some excellent, complex and very interesting stacks among them. *MacDigest! The Stack!* is an interesting-looking interactive book/magazine, while *Images of Mars* contains some spectacular images and accompanying data. There are a couple of worryingly technical stacks too, like *DeveloperStack*, which contain very powerful-sounding tools for serious programming types. But mostly the stacks on this disc are awful. If you buy this CD-ROM I think you'll find enough exceptional stacks to make it worth the money. But you'll probably be very bored and depressed by the time you find them.

Most of these stacks have accessible (that is, not hidden) scripts that you can examine to see how they work and many are interesting for the way the authors have designed their navigation systems. And this is on top of those stacks which provide useful and powerful development tools. As a source for *HyperCard* developers, the *Hyper Stacks* CD-ROM has, admittedly, quite a lot to offer.

Overall, though, this is the *HyperCard* equivalent of a trip to a car boot sale – you thought you had accumulated a lot of rubbish until you saw the junk other people had. Still, there's always a chance of picking up a real bargain if you dig deep enough... **ROD LAWTON**



Not so technical and not so worrying is the imaginatively titled *Images of Mars*, with its many images of Mars.

Photo Album is contained on the stack, with many images like the one above, suitably reminiscent of the crockery in a Chinese restuarant.

HYPER STACKS

Price: £31.73.
Requires: Any Mac, *HyperCard 2.0* or above (some stacks will require a colour machine and *HyperCard 2.1* or even *2.2*).
For more details contact Network Limited on 01203 419996..

FEATURES 80%
There are stacks here that do everything from planning your lunch to differentiating your equations.

EASE OF USE 43%
The smartest programmers are not always the best explainers...

VALUE FOR MONEY 60%
It's tough to mark it down when there's simply so much material to explore.

MACFORMAT RATING 62%

GASTEINER

MACINTOSH POWER.P.C

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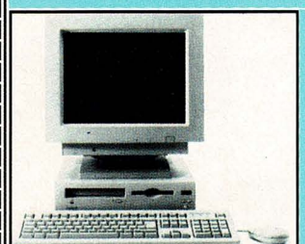

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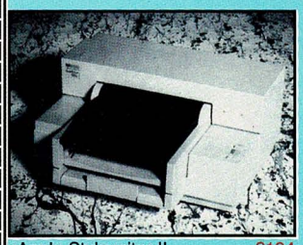
MACINTOSH PRINTERS



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•HP Deskwriter 540	£221
•HP Deskwriter 660	£309

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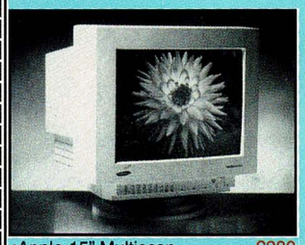

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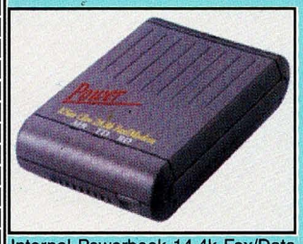
GASTEINER POWER-MODEMS



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all modems supplied with fax/data software these modems are not BABT approved.

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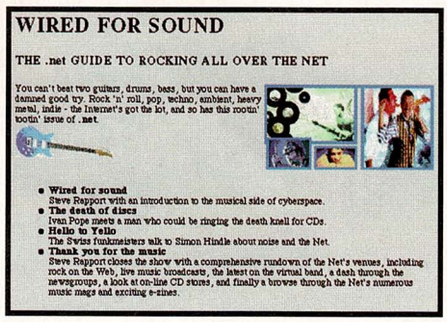

WIRED FOR SOUND
THE .net GUIDE TO ROCKING ALL OVER THE NET
You can't beat two guitars, drums, bass, but you can have a damned good try. Rock 'n' roll, pop, techno, ambient, heavy metal, indie - the Internet's got the lot, and so has this rootin' tootin' issue of .net.
• Wired for sound
Steve Rapport with an introduction to the musical side of cyberspace.
• The death of discs
Ivan Pope meets a man who could be ringing the death knell for CDs.
• Hello to Yello
The Swiss funknsiwers talk to Simon Hindle about noise and the Net.
• Thank you for the music
Steve Rapport closes the show with a comprehensive rundown of the Net's venues, including rock on the Web, live music broadcasts, the latest on the virtual band, a dash through the newsgroups, a look at on-line CD stores, and finally a browse through the Net's numerous music mags and exciting e-zines.

You'll find the latest information on new issues and forthcoming special offers.

Don't Panic
Those stupid little problems that have been annoying you, the ones you can't find any answers for in the DOS or Windows manuals, will annoy no more. Ed Ricketts and Paul Pettengale are the smarmiest with all the answers. Photography : Ashton James
We are your friends, we like to help you out, and we enjoy telling you what to do. At which point we'd like to add that it's also our job, and we've all got mortgages to pay for, so when we're told, "Give our readers at least 100 top tips on how to get the most out of their PCs, informing them how to make their PC-using lives easier, and giving them the lowdown on the essential software they should get", we jump. And after we've done that we get down to it.
We know these PC things can be a pain where it hurts from time to time - things go wrong, you get confused, you cock everything up. Hey, we've all done it (though Ed never admits to it), but in most cases, if you have your PC set up well in the first place, or if you follow a series of simple precautionary procedures once a month or so, you can rest assured that things will never, ever go wrong. Well, not frequently at any rate. So let us tell you what to do, tip by tip, to make sure that your PC life is a happy one.

Articles from back issues are available free to search and browse.

To advertise on FutureNet, email **Simon Richardson** at srichardson@futurenet.co.uk or call 01225 442244.

MAC ANSWERS

Come wind, rain, snow or corrupt hard disk, the MACFORMAT team of experts are here once again to solve your problems.

Welcome to this month's MacAnswers, and a few really tricky problems. This month the experts are Jim Chandler, Stuart McHugh, Bob Dorman, Philip Jones and Derek Smith. To put your question to the team, simply fill out the coupon on page 74 and send it in. I'm sorry but we are unable to provide technical support over the phone, even though Apple's own helpline seems permanently engaged! On with the solutions...

Tiny Telly

QUICKTIME

Q *I rushed out and got QuickTime 2 because I heard that it featured full screen video. However, after installing it, the videos I have still ran at a tiny size, and no better quality than QuickTime 1.6.1. Why is this?*

Nick Kitchen
Guildford, Surrey

A For the same reason that if you bought a wide screen television and rented a standard video, you would get a normal width picture, not the wide cinema version. You would need to ensure that you rented a version of the video designed to display in wide screen.

The confusion comes from the fact that although QuickTime 2 is capable of full screen video, it is still dependant on someone creating a full screen video.

So will there be loads of full screen video CDs available soon? Probably not. Most QuickTime movies still tend to be small, partly because authors want their work to be backwardly compatible because full screen video needs a very fast computer, and because it takes up proportionally more disk space. **DS**

Count Claris

RESEDIT

Q *Using ResEdit, is it possible to graft the word count from one application* (FlashWrite) *to another* (ClarisWorks 2)*?*

John Leslie
Torrance, Glasgow

A No. *ResEdit* is only capable of accessing a program's resources. These hold details about the interface, pull-down menus, windows and the like, but nothing about the program itself. To do what you want would require you becoming a master programmer, and anyway, it's rather naughty, not to mention illegal, because program code is copyright.

However, to cheer you up, *ClarisWorks 3* finally has a proper word count, although you can fake it with version *2*. Simply spell check the entire document, and the spell checker will tells you how many words it checked in total. **DS**

Disappearing disk

SYSTEM SOFTWARE

Q *Whenever I reboot my Quadra 660AV the information in the top of the hard disk window shows a different amount of hard disk space available. On one morning I appeared to have over 4,000Mb of hard disk space on a normal 230Mb drive, and another time only 1.7Mb was available! I have tried everything, including installing a new System, rebuilding the Desktop, turning off the Extensions,* Disinfectant 3.5 *etc.*

Dr Stuart N Thomson
Bochum, Germany

A This sounds a lot like a problem reported with the 660AV and 840AV. The trouble lies with a minor bug in the System software, which Apple has fixed in later versions. If you don't want to upgrade to System 7.5, try installing System Update 3.0. You should be able to get it from an AppleCentre, or from Apple's ftp site at **ftp.apple.com.** **JC**

Just add colour

HARDWARE

Q *I have everything to run the* Prince Interactive *CD except for thousands of colours – my monitor only has 256. Is there any software to make the program accept fewer colours?*

Andrew Blanchard
Halewood, Liverpool

A None that I know of, and even if there were, the *Prince Interactive* CD would look awful, even worse than it does normally! But you say that your

Continued on next page

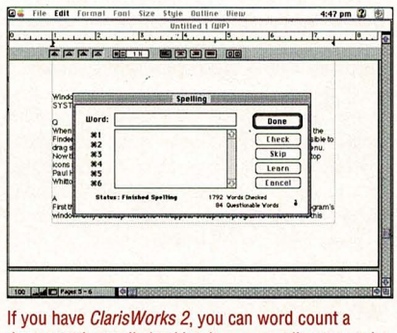
LAUNCHER TIP

If you use *Launcher*, go to the **View** menu and select **Vertical** to make the window tall and thin.

MONITOR TIP

If you are not happy with the picture quality of the Apple Performa Plus monitor (bundled with Performas) try turning the brightness to minimum and the contrast to maximum.

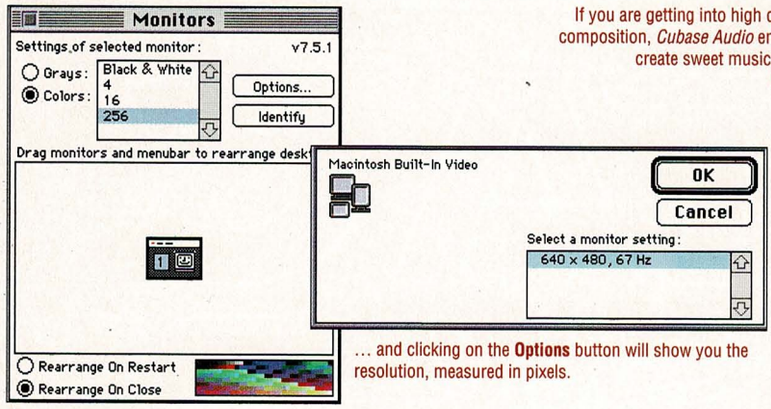
With QuickTime 2, you can enlarge a movie to fill the screen, and it will run at a reasonable speed, but you'll lose quality. See 'Tiny Telly'.



If you have *ClarisWorks 2*, you can word count a document by spell checking it, or upgrading to version 3! See 'Count Claris'.

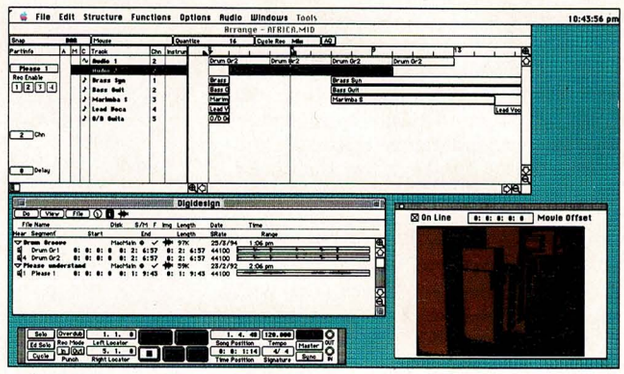
Apple Software Updates
Back
Forward
Home
Reload
Images
Open
Print
Find
Stop
Location: http://www.support.apple.com/wwwdocs/apple_sw_updates.html
Apple
Software Updates Archive
Welcome to the "Apple Software Updates" page. This service was created to provide you with the latest Apple software updates. Our hope is that by providing easy access to the latest Apple software it will reduce support costs within your organization as well as reduce the number of calls to 800-SOS-APPL.
New Files
Files
New files added over the last 14 days (http)
FTP Access
These servers contain the complete Apple SW Updates Archive.

If you have Internet access, you can log on to Apple's own Web site and download the latest software update, such as 7.5.1, for free. See 'Disappearing disk'.



Selecting the Monitors Control Panel will show you how many colours your Mac can handle...

... and clicking on the **Options** button will show you the resolution, measured in pixels.



If you are getting into high quality music composition, *Cubase Audio* enables you to create sweet music. See 'Sound Investment'.

monitor only has 256 colours, which strictly speaking isn't true. It can display millions – it's your Mac that can only display 256.

The number of colours your Mac can display is controlled by the amount of video RAM it has, and in your case, the LCIII has 512K. Most Macs have spare SIMM slots for adding more VRAM, just as you can do with ordinary RAM.

To display thousands of colours, all you need to do is add a single 256K VRAM SIMM, which costs just £11.75 from Performance Direct on 01784 477477. A shareware program would probably cost you more! Users of other Macs will need to add differing amounts of VRAM depending on the maximum size of monitor they support, but adding VRAM is relatively cheap. **DS**

NETWORK TIP

If you can't change the name of a disk or folder, check that File Sharing is turned off. You can't change the name of something that is being shared.

CLASSIC TIP

If you have a Mac Classic, start up with **[command] [option] [O]** and **[X]** pressed down to make a special disk appear on the Desktop containing System 6.0.3.

Sound Investment

HARDWARE

Q I bought an LCIII a year ago (when they were good) and I now want to give it a bit of a sound boost. Are there any 16-bit stereo sound cards for the LCIII, or will I have to buy a NuBus adaptor card and a NuBus sound card?

Ed Clarke
Address not provided

A The first thing to say is that you can't use a NuBus card in an LC. The LC range all have one Processor Direct Slot inside, and need PDS compatible cards. NuBus cards are designed for larger Macs and cannot be used in LCs and there is no adaptor. You may be getting confused with the adaptor for the PowerMac 6100 which does do exactly this.

As for 16-bit stereo on an LCIII (Performa 450), it all comes down to how much you want to spend and what you intend to do. Digidesign provides a PDS card called Audiomedia II LC (£840.13) which comes bundled with its industry standard *Sound Designer II* software. If you decide later that you want to integrate this with a MIDI sequencer, then a host of popular software programs exist such as *Cubase Audio* and *Notator Logic Audio* that support a variety of Digidesign hardware. Audiomedia II LC provides a maximum of four tracks of 16-bit digital recording. Call Digidesign on 0181 875 9977 to find your local dealer.

For a full investigation of the Mac's digital audio interfacing capabilities, see MACFORMAT 21 for the Hard Disk Music feature which covered this topic for 8-bit and 16-bit recording systems (if you missed it, see page 108). **BD**

Shut up

SYSTEM

*Q When I select **Shutdown** from the **Special** menu, my Mac does not shut down. All the icons simply disappear and reappear. It will restart without any problem but I have to disconnect power to turn off the computer.*

Patrick Forde
Co. Cork, Eire

A Oddly enough, this was a problem I experienced myself in the past. I was

On your marks – modems at the ready

Bulletin Board Services are ideal places to chat electronically to like minded people. Although they're reasonably easy to set up, there are plenty of things to watch out for!

QUICKTIME TIP

To make any QuickTime movie play at startup, rename it Startup Movie and put it loose in the System folder.

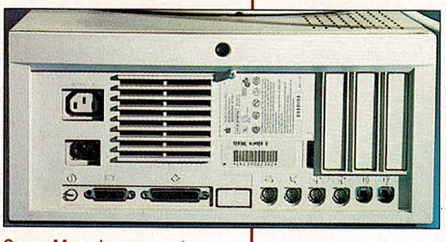
Turn me on

HARDWARE

Q My Mac II 4/80 is used for my BBS running the FirstClass *server. Until recently, the BBS was run from a Mac Classic. The BBS runs 7 days a week from 2:30pm to 10:00pm. To automate things, I bought an electronic timer that turns on the power at 2:30pm. The Classic's Power key was set to the power on position.*

At 9:50 I used QuickKeys *to Quit, at 9:55 to Shut down, and at 10:00pm the electronic timer would shut the power off. But I am no longer able to turn the Mac II on automatically, as it has a different type of power-on key, called, I believe, soft startup. Any ideas?*

Angelos L Georgiades
Nicosia, Cyprus



Some Macs have an extra **on/off** switch which can be locked in the on position.

A The Classic, Plus and SE have a physical power-on switch which will of course start up the Mac as soon as the mains electricity starts to flow. All Macs from the Mac II onwards have soft start-up, meaning that a press of the keyboard power button will start them up through the ADB (the Apple Desktop Bus, which connects the keyboard and the mouse).

The way that many Macs get round your problem is by having lockable powerup switches (you twist the switch at the back 90° by putting a screwdriver in the slot). This was originally intended to ensure that file servers interrupted by a power cut would come back on with the mains power, but it would also work for you. If you didn't have the Mac II, that is.

If you try to lock the Mac II's switch in place, it just tries to restart incessantly, which won't do it a lot of good. So what you really need is an ADB-compatible power timer, which unfortunately doesn't exist to my knowledge.

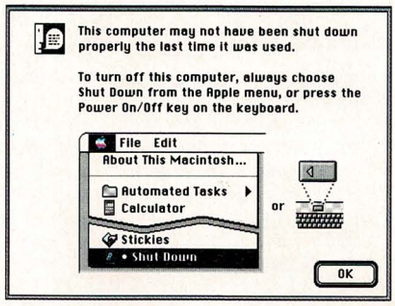
Another workaround, less elegant but equally effective, would be to strap a heavy weight onto the **Power** switch on your keyboard (no, really), so when the power was flowing the Mac would recognise this and the juice would continue to flow. The final alternative might lie in a modem that connects via the ADB, meaning that if a signal comes down the modem, the Mac can then be started up. Contact Frontline on 01256 841841, for details of Global Village modems. SMcH

Board stupid

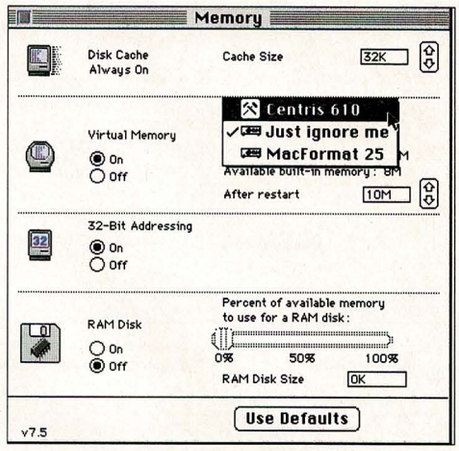
COMMS

Q I am considering starting up a BBS, so I would like to know what software I would need to use to produce a graphical, point-and-click interface. Also, where would I be able to get my hands on the latest

Busking in the '90s


This computer may not have been shut down properly the last time it was used.
To turn off this computer, always choose Shut Down from the Apple menu, or press the Power On/Off key on the keyboard.
File Edit
About This Macintosh...
Automated Tasks
Calculator
Stickies
Shut Down
or
OK

System 7.5.1 has an interesting extra feature. Pressing the **Power** key on the keyboard has the same effect as selecting **Shut Down** from the **Special** menu.



You set up virtual memory with the Memory Control Panel, and you can use space on external hard drives. See 'Split the difference'.

able to remedy it by a general tidy-up of my Extensions and Control Panels. Think of it this way – if you try to shut down your Mac when programs and files are open, you'll get a message asking you to save the changes, or the programs may quit directly if nothing is open. For Extensions, it's a different problem because there is no interface of any sort, so if you have a clash in memory of a couple of Extensions, Control Panels etc, then the unfortunate result might be that your Mac can't close them and it gives up. I would be so brave as to wager a bet that if you start up with Extensions turned off by holding down the **[shift]** key, you'll be able to shut down. If it's not an Extensions clash, then try reinstalling your system software, as it is a possibility that you may find your Finder is damaged. **SMcH**

Split the difference

MEMORY

Q *I have an 8Mb IIcx with virtual memory turned on to give me 13Mb of RAM. However, when I select* ***About This Macintosh*** *from the* ***Apple*** *menu, it says that 13Mb of my hard disk is used as RAM. Logically I would have thought the amount of hard disk used as RAM would have been only 5Mb, the difference between 8Mb and 13Mb. Have I set it up incorrectly?*
Keith Howell
Prestwood, Bucks.

A No, you've done nothing wrong. Virtual memory is set up from the Memory Control Panel and gives you more RAM by using some spare hard disk space. Because hard disks are slower than RAM chips, it's not ideal, but used occasionally, it can help you out of sticky situations.

Not only is it slow, but it's inefficient in that it needs as much disk space as the total amount of RAM that you will eventually have. There is no way around this, although at least you can use an external hard disk.

RAMDoubler does a similar job to virtual memory, but is slightly faster and only takes as much hard disk space as it absolutely has to. *RAM Doubler* is available for around £70 from Computers Unlimited on 0181 200 8282. **DS**

MOUSE TIP

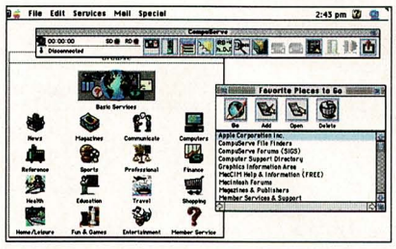
If you want to give people access to a Mac but without the keyboard, you can plug the mouse directly into the keyboard (ADB) port at the back of your Mac.

Memories are made of

HARDWARE

Q *I've had my Performa 450 for over a year and recently purchased a CD-ROM drive. I now find out that I require more memory to*

Continued on next page



CompuServe, along with other on-line services such as TeleFinder BBSs, uses an icon based interface for ease of use. See 'Board stupid'.

shareware and PD to include on the BBS?
Jonathan Heron
Dublin

A Starting a BBS is a major enterprise, and, with the growing popularity of the Internet, is becoming less and less worthwhile. The question you have to be able to answer is, why should people ring your BBS rather than use the Net? In some cases, there are good reasons for a dedicated BBS. Support for a product or group, for example, might be better served by a BBS.

If you think that you will get enough users to justify starting a BBS, then you will need to get a dedicated telephone line so that people can ring in without your intervention, and a dedicated computer to run it on.

Point-and-click BBS servers, such as *TeleFinder* and *First Class*, are available, but are commercial programs, and will probably not be happy running on your 4Mb machine. We will be featuring an article on the latest version of *TeleFinder* in MACFORMAT very soon.

Again, the best place to find shareware on-line is on the Internet. Many BBSs now have some form of Internet access, giving their users the advantages of Net mail and downloading software.

If this hasn't put you off (and I hope it hasn't) then be prepared for a few sleepless nights getting it all up and running, and some big phone bills when it is. Running a BBS can be very rewarding, but it's not for the fainthearted! **JC**

EASY TIP

If memory on your Mac is tight, consider using At Ease because it needs significantly less RAM than System 7.

'Bad news – Reader's Digest have discovered our E-mail address!'

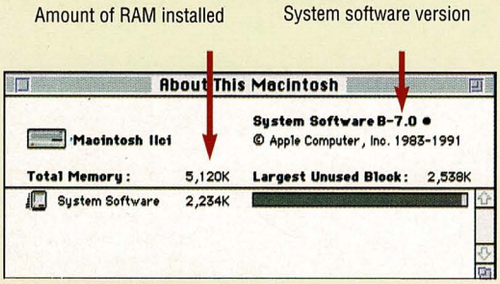
The do-it-yourself problem solving guide...

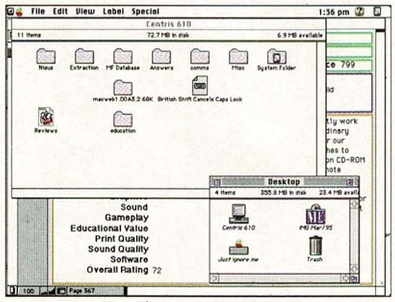
One of the main causes of problems on the Mac is Extensions or Control Panels clashing in the depths of your System Folder. Fortunately, it's easy to check if this is the case. Restart your Mac and hold down the [shift] key. You can let go of the key when you see the message 'Welcome to Macintosh. Extensions off'.

If everything now works, then the problem lies in your System Folder. The only way to work out which item is the culprit is by trial and error. Remove a few Extensions and or Control Panels, then restart your Mac. Keep going until the problem no longer occurs, and you have located the offending software.

If this doesn't work, another common solution is to rebuild your Desktop. Start up your Mac with [command] and [option] held down. You will get a message asking if you want to rebuild the Desktop. Click OK and see if this solves your problem.

If the problem persists then use the form below to ask our experts. We'll need to know a few facts about your Mac, so when you're in the Finder, select About This Macintosh from the Apple Menu. The picture (left) shows what we'll need to know.





I now have access to my Wastebasket and all my hard disks, even when they are covered by an application's window! See 'Window of opportunity'.

STARTUP TIP

If the startup chime on your Mac annoys people around you, plug a phono jack into the sound out port in the back. This diasables the Mac's speaker.

HIGHLIGHT TIP

With most word processors, to highlight a large section of text, click once at the start of the selection to place the I-beam, move the pointer to the end of the selection, hold down **[shift]** and click once.

be able to run many programs. How do I upgrade? Can I do it myself?
Domenico Pocai
Bishopbriggs, Glasgow

A The Performa 450 (LCIII) comes with 4Mb of RAM soldered onto the motherboard. It has one memory expansion slot into which you can install a memory card, known as a SIMM (single in-line memory module).

Installation is simple. Take the case off your LC and push the SIMM into the slot. The only problem is deciding which size of SIMM to buy. They are available in 1, 2, 4, 8, 16, and 32Mb size (a 64Mb SIMM will be available soon). If you buy one and then decide you need even more memory, you would have to sell your existing SIMM and buy a new one over again. It is therefore desirable to buy the largest SIMM you can afford at the start, so you don't need to keep upgrading.

Memory is available from many mail order firms, so check out the adverts in MACFORMAT and expect to pay around £30-£35 per megabyte. **DS**

Window of opportunity

SYSTEM

Q *When I use the application menu in the top right corner of the screen to return to the Finder, all the icons are covered by windows open in other programs. It's impossible to drag stuff to the Wastebasket unless I select* ***Hide Others*** *from the application menu. Now that my program is hidden, I can't just click on it to return. Can I make Desktop icons appear on top of a program's windows?*
Paul Hartingale
Whitton, Middlesex

A First the bad news. It's impossible to make Desktop icons appear on top of a program's window. Only Desktop windows will appear on top of a program's window. And this gives us the good news!

Create a new folder on your Desktop and name it 'Desktop Icons' or something similar. Click once on your Wastebasket to select it, then choose **Make Alias** from the **File** menu. Move the alias into your new folder, then do the same for all your hard disks. If you keep that window open permanently, whenever you return to the Desktop, it will appear in front of all your applications! **DS**

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to:
Mac Answers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. Or fax it to us on 01225 446019.

Name .....

Address .....

.....

.....

Your Mac
(For example, Performa 200, IIfx, PowerBook 145):

.....

System version
(see About this Macintosh screenshot above): .....

Amount of RAM
(see About this Macintosh screenshot above): .....

Are you using Virtual Memory? .....**YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing turned on? .....**YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question. Include as much relevant information as possible. Please continue on a separate sheet if necessary.

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Power Mac 7100/66 8/500 CD	1706	Power Mac 7100/80 8/700 CD	2048
Power Mac 7100/80 8/350	1733	Power Mac 7100/80 8/700 AV CD	2153
Power Mac 8100/80 16/1000 CD	2783	Power Mac 8100/100 8/700	2468
Power Mac 8100/100 16/700 CD	2808	Power Mac 8100/100 16/1000 AV CD	3071
Power Mac 8100/110 16/2000 CD	3885		
Power Mac 6100/60 8/250 & SW	1406	Power Mac 6100/60 8/250 CD & SW	1537
Power Mac 6100/66 8/350 & SW	1485	Power Mac 6100/66 8/350 CD & SW	1616
Power Mac 7100/66 8/500 CD & SW	2036	Power Mac 7100/80 8/700 & SW	2063
Power Mac 7100/80 8/700 CD & SW	2378	Power Mac 8100/80 16/1000 CD & SW	2893
Power Mac 8100/80 16/500 AV CD & SW	2623	Power Mac 8100/110 16/2000 CD & SW	3995
Power Mac 8100/100 8/700 & SW	2578	Power Mac 8100/100 16/700 CD & SW	2918
Power Mac 8100/100 16/1000 AV CD & SW	3181	Power Mac 8100/110 16/2000 CD & SW	3995
Power Mac 6100 DOS Compatibilty Card	385		
Power Mac PDS Upgrade Card	545		

Key: AV = Audio Visual, SW = Soft Windows

We can usually match other dealers prices. Please call for details.

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Power Mac 6100/60 8/250 & DOS Compatibilty Card & 8Mb Memory Upgrade	1470
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Power Mac 8100 8/500, 17" Monitor, Agfa StudioScan II & Aldus PageMaker	3307

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Group 2	Most LC's, Scanners, Monitors, CD-ROM Drives
Group 3	LC & Performa 630's, Quadra 600's, Powerbooks, Powerbook Duo's, 21" monitors, Colour StyleWriters, Power Mac 6100's, Quicktake 100, LaserWriters
Group 4	Quadra 800/900's, Workgroup Servers, Power Mac 7100/8100's

2 years OSM	Group 1	55	Group 2	84	3 years OSM	Group 1	92	Group 2	126
	Group 3	99	Group 4	135		Group 3	165	Group 4	220

Apple Macintosh Hardware & Bundles

Performa 460 4/160 & keyboard				Performa 475 4/160 & keyboard	604
Performa 475 4/250 & keyboard				Performa 475 4/250 Plus & keyboard	629
Performa 475 8/250 & keyboard				Performa 630 4/250 & keyboard	761
Performa 630 8/250 CD & keyboard				Performa 630 8/250 CD Plus & keyboard	1024
Quadra 630 4/250 & keyboard					

Mac Bundle	RAM	HD	Bundle includes	
Performa 460 4/160	4	160	with 14" display & keyboard	625
Performa 475 4/160	4	160	with 14" display & keyboard	751
Performa 475 4/250	4	250	with 14" display & keyboard	687
Performa 475 4/250 Plus	4	250	with 14" display & keyboard	731
Performa 475 8/250	8	250	with 14" display & keyboard	783
Performa 630 8/350 CD	8	350	with V-in-TV & keyboard	1049
Performa 630 8/350 CD Plus	8	350	with V-in-TV & keyboard	1181
Performa 630 4/250	4	250	with Colour 14" display & keyboard	852
Performa 630 4/250	4	250	with Colour Multiscan 15" display & keyboard	933
Performa 630 8/250 CD	8	250	with Colour Multiscan 15" display & keyboard	974
Performa 630 8/250 CD Plus	8	250	with Colour Multiscan 15" display & keyboard	1217
Performa 630 8/350 CD	8	350	with V-in-TV, Colour Multiscan 15" display & keyboard	1177
Performa 630 8/350 CD Plus	8	350	with V-in-TV, Colour Multiscan 15" display & keyboard	1378
Quadra 630 4/250	4	250	with 15" display & keyboard	987

Apple Macintosh Powerbooks

	RAM	HD	CPU	Screen	
Powerbook 150	4	120	33MHz 030	9.5" 4 GS PM	699
Powerbook 150 + GB Bronze Modem	4	120	33MHz 030	9.5" 4 GS PM	778
Powerbook 150 + GB Gold Modem	4	120	33MHz 030	9.5" 4 GS PM	894
Powerbook 150 + GB Mercury Modem	4	120	33MHz 030	9.5" 4 GS PM	951
Powerbook 520	4	240	50/25Mhz LC040	9.5" 256 PM	1135
Powerbook 520C	4	240	50/25Mhz LC040	9.5" 256 PM	1670
Powerbook 520C EM	12	320	50/25Mhz LC040	9.5" 256 PM	2168
Powerbook 540 EM	12	240	66/33Mhz LC040	9.5" 64 GS AM	2445
Powerbook 540C	4	320	66/33Mhz LC040	9.5" 256 or Thou Col AM	2656
Powerbook 540C EM	12	500	66/33Mhz LC040	9.5" 265 or Thou Col AM	3245
Powerbook Duo 280 EM	12	200	66/33Mhz LC040	9" 16GS AM	2010
Powerbook Duo 280C	4	320	66/33Mhz LC040	8.4" 256 or Thou Col AM	2125
Powerbook Duo 280C EM	12	320	66/33Mhz LC040	8.4" 256 or Thou Col AM	2467

Key: EM = Express Modem, GS = Greyscale, PM = Passive Matrix, Col = Colours, AM = Active Matrix, Thou = Thousands

Memory

Generic - 30 pin			
1Mb	55	4Mb	123
8Mb	255	16Mb Low Profile	449
Centris, LCIII, PM 6100, 7100, 8100 - 72 pin			
2Mb	59	4Mb	99
8Mb	199	16Mb	299
32Mb	589		
Quadra 800, 840AV - 72 pin			
4Mb	150	8Mb	280
16Mb	463	32Mb	718
Powerbook 140, 145B, 170			
4Mb	108	6Mb	161
Powerbook 160, 165, 180, 165C, 180C			
4Mb	117	8Mb	174
8Mb	231	10Mb	307
Powerbook 150			
4Mb	152	8Mb	285
Powerbook 520/520c/540/540c			
4Mb	150	8Mb	288
16Mb	552	32Mb	1099
VIDEO RAM			
256k	15	512k	25

Keyboards & Mice

Design Keyboard	74	Extended Keyboard	128
Adjustable Keyboard	149	Desktop II Mouse	35

Hard Disks

Bracketed figure is nominal capacity in Mb.

CONNER			
CFA540S (540)	209	CFA1060S (1.06Gb)	325
FUJITSU SCSI			
M2681SA (260)	Call	M2682SA (350)	199
M2684SA (532)	186	M2694SA (1.1Gb)	495
MAXTOR SCSI			
7290S (290)	199	7345S (345)	249
QUANTUM			
LPS270S (270)	120	LT365S (365)	135
MV540S (540)	155	XP32150 (2.1Gb)	720
GP4280S (4Gb)	1402		
SEAGATE			
ST31230N (1Gb)	337	ST12400N (2.1Gb)	725
ST32550N (2.1Gb)	757	ST15230N (4Gb)	1099
ST410800N (9Gb)	2495		

User knowledge is assumed when bare hard drives are supplied.

CD-ROM Drives

APPLE			
CD300i+	145	CD300e+	172
CD MM kit	295		
NEC			
3xp+	245	4xi	235
4xe	363	4x Pro	505
2xc 7-disc SCSI Ext	349	Mac interface & s/w	31

Lasers

APPLE			
LW 300 512k	409	LW 320 2Mb	598
LW Select 360 7Mb	1049	LW Pro 630 8Mb	1180
LW 16/600PS	1505	LW 16/600PS & fax	1540
LW 16/600PS & fax & modem card			1599
DIGITAL			
DECLaser 5100	1089	DECLaser Pro 6/60	1170
DECLaser 3500	1495		
HEWLETT PACKARD			
LJ5MP 600dpi PS	695	LJ4M+ 600dpi PS	1257
LJ4MV 600dpi PS	1969		
TEXAS INSTRUMENTS			
MWriter PS	499	ML 600 2Mb PS	599
ML 600 Plus 4Mb PS	699	ML Pro 600 PS 23f	799
ML Pro 600 PS 65f	949	ML Power Pro	1025

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Printers

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StyleWriter Col 2400	357		
CANON			
BJC 820 A3 Col	1235		
EPSON			
Stylus Colour	323		
FARGO			
Primera Pro	1299	Picterra 310	3420
HEWLETT PACKARD			
DeskWriter 310	126	DeskWriter 320	165
DW 320 & ASF	177	DW 320 Col Kit	28
DW 520	197	DeskWriter 540C	199
DeskWriter 660C	293	Deskjet 850C	389
DeskJet 1200C PS	994	DeskJet CM	1219

Monitors

APPLE			
Colour Plus 14"	205	Colour display 14"	235
Audio Visual 14"	315	Colour 15" display	275
Colour display 17"	585	Colour display 20"	1330
FORMAC PRONITRON			
80.17 Multisync 17"	526	80.20 Msync 20"	1210
80.20HP Msync 20"	1250		
IDEK			
MF8115	259	MF8617	499
MF8221	1129	MF9121	1229
MF8621	1549		
NEC			
XV14 14"	225	XV15 Multisync	275
XE15 Multisync	385	XV17 Multisync	549
XE17 Multisync	688	XP17 Multisync	899
XE21 Multisync	1309	XP21 Multisync	1729
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44BS090P LR NI 14"	225	449E090P LR NI 15"	305
447V090 LR NI 17"	475	447B090 LR NI 17"	519
NOKIA MULTIGRAPH			
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447X090 LR NI 17"	670	447M092 LR NI 17"	685
447X092 LR NI 17"	670	445M090 LRNI 21"	1299
445M092 LR NI 21"	1415	445X092 LR NI 21"	1599
PHILIPS			
14A 14" NI	195	15B 15"	247
17C 17"	419	17A 17"	643
20C 20"	775	21B 21"	1355
RADIUS			
20GS 20" GS Ergo	668	21GS 21" GS Ergo	780
Pivot GS Ergo	489	Precision Col Pivot	655
PrecisionCol 17"Ergo	979	Precision Col 20"	1595
Colour Display 21"	1874		
SONY			
CPD 1420S 14"	265	CPD 15SF15"	305
CPD 17SFI 17"	585	GDM 17SEI 17"	827
SUPERMAC			
Supermatch 17" Tri	689	Supermatch 20"	1345
Supermatch 21"	1419		
VIEWSONIC			
VS6E LR NI 14"	170	VS15ES LR NI 15"	245
VS15G LR NI 15"	330	VS17G LR NI 17"	545
VS17-2 LR NI 17"	679	VS20G LR NI 20"	1030
VS21PS LR NI 21"	1380		

Adapters available if required. Please call for details.

Video Boards

RADIUS			
8xj - 8 bit	425	24xp - 24 bit	415
24xk - 24 bit	625	24x Pro - 24 bit	1129
SUPERMAC			
Video Spigot for LC	207	Spectrum 24 Series 5	567
Thunder 24	1136	Thunder 2Gx 1152	1476

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3200 Int 4 - 8Gb	685	3200 Ext 4 - 8Gb	785
3400DX Internal 8 - 16Gb SCSI-2			795
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Message Pad 110	325	Message Pad 120	395

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StudioScan	485	StudioScan II	619
APPLE			
AppleOne	435	AppleOne Colour	555
QuickTake Camera	235	QT100 + Photoflash2	319
EPSON			
GTx - 6500 Mac	396	GTx - 9000 Mac	615
GTi - 6500 Mac	566	GTi - 9000 Mac	802
HEWLETT PACKARD			
Scanjet 3P	340	Scanjet IICX	669
MICROTEK			
Scanmaker II SP	545		
NIKON			
CoolScan Ext	1225	ScanTouch + OCR	915
UMAX			
UC1260	1069	UC1260 Pro	1489
Powerlook Pro	2499	Transparency Units	450

Modems

ANDEST			
RR Rocket Gold	135	RR Rocket Terbo Plat	135
VPA V22bis	349	VPA V32bis	399
GLOBAL VILLAGE *(Not BABT Approved)*			
Teleport Bronze II	87	Teleport Gold II	120
Teleport Mercury	250	Teleport Platinum	230
Powerport Bronze	89	Powerport Gold	215
Powerport Mercury	250	Powerport Platinum	299
HAYES			
Accura 144 + fax	159	Accura 288 VFast + fax	189
MULTITECH			
Internet in a box	269		
PACE			
FX32+ Mac	150		
US ROBOTICS			
Sportster 14.4 + fax	129	Sportster 28.8 + fax	195
ZOOM			
Zoom 144	130		

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

SyQuest/MO Drives

D2 88Mb Ext	245	D2 105Mb Ext	295
D2 200Mb Ext	370	D2 270Mb Ext	415
All inc cable, s/w & 1 cartridge			
D2 128Mb MO	540	D2 230Mb MO	615

Software

Access PC	65	Acrobat 2.0	120
Acrobat Pro 2.0	355	Adobe Steamline	108
After Dark 2.0	32	AR Exp GB & Ire 1.0	89
Astound 1.0	85	Adobe Type Manager	50
Claris Draw	191	Claris Office	429
Claris Organiser	39	Claris Works 3.0	89
Cricket Graph	99	FileMaker Pro 2.1	189
FileM' Pro +WP 3.0A	250	Freehand 5.0	330
Illustrator 5.5 CD	279	Intellidraw	89
Lotus 1-2-3	272	Lotus Notes Express	135
MacDraw II	125	MacLink + PC 7.5	129
MacLink + Trans 7.0	93	Mac PC Exchange	115
MS Excel 5.0	225	MS Fox Pro 2.5	55
MS Mail 3.1	173	MS Office 4.2	335
MS Powerpoint	255	MS Project 3.0	289
MS Word 6.0	225	MS Works	89
MYOB 3.0	170	Norton Utilites 3.0	72
OmniPage Direct	70	OmniPage Pro 3.0	355
PageMaker 5.0	379	Persuasion 2.1	225
Photoflash	150	Photoshop 3.0	499
QuarkXPress 3.3	547	Quicktime Starter kit	49
Remote Acc Client	55	Remote Acc Server	170
Retrospect	134	Retrospect Remote	242
Ritz Accounting	239	Ritz Meridian	132
SAM 4.0 with subs	99	SAM 4.0 no subs	54
Stacker	52	Sage Bookkeeper	110
Super ATM	75	Symantec Think 'C'	2130
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Iron Helix - CD	Call	Just Grandma & Me	23
Kid Pix 2.0	21	Lemmings	25
Mario is Missing	29	M.Beacon Type Tutor	24
Monkey Island II	29	MS Encarta	65
MS Flight Sim 4.0	32	MYST - CD	32
Return to Zork	29	PGA Tour Golf II	26
Sherlock Homes 3.0	29	Sim City 2000	26
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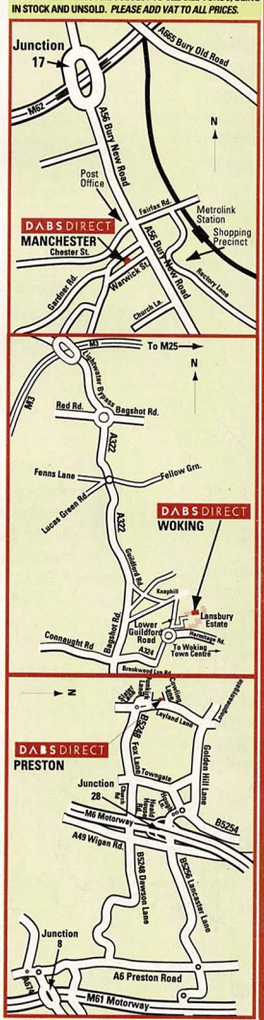

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Grab the moment

Taking a screenshot is a simple but powerful process on the Macintosh. Here's a step by step guide for the uninitiated.

From the early days, the Macintosh has had a built-in screenshot facility. It is an option which can be very useful, especially when you're creating printed instructions which involve lots of intricate detail. It can also be used to capture and save graphics and pictures which normally cannot be saved.

In order to activate the built-in screenshot facility, hold down **[command] [shift] 3**, and a graphic file is saved to your hard disk which contains the image of your monitor screen, just as if you had taken a photograph of it. There are two drawbacks with the built-in screenshot facility though. First, it captures the entire screen, and second, you can't capture pull-down menus or some other functions until they free up the processor.

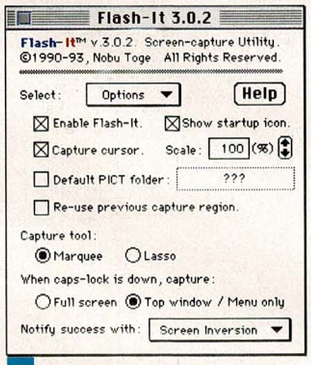
This prompted the creation of several shareware programs to improve the situation. The best of them is *Flash-It*, the latest version of which is on this month's MACFORMAT floppy disk and CD. It enables you to take screenshots of pull-down menus and specific areas of the screen.

Capture screenshots with *Flash-It* on this month's CD and floppy disk

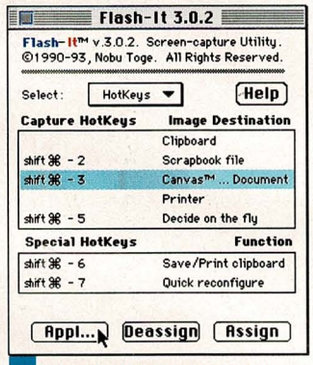
To install *Flash-It*, drag its icon onto your System Folder, and click **OK** to place it into your Control Panels folder. Then restart your Mac. To set it up, follow these steps...

BYE BYE CURSOR

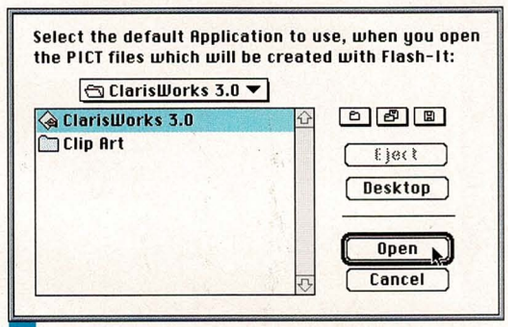
If you set up *Flash-It* to capture the cursor, don't worry that it disappears when you take a screenshot. It'll be there in the final image!



1 Open the *Flash-It* Control Panel and you see this screen. Click on the check boxes to choose your desired settings. One of the more important options is **Capture cursor**. With this checked you will be able to capture the mouse pointer in your screenshots.



2 Using the **Select** pop-up menu, choose **HotKeys**. This screen enables you to select which key combinations activate which type of screenshot. Click on **Canvas Document**, then click **Assign**. Now press whichever key combination you want to activate a screenshot later. Try to select a combination that doesn't activate anything else. If there's a conflict, it's possible neither command will work.



3 Ensuring **Canvas Document** is still highlighted, click on **Appl...** to tell the program which graphics program you own. Here I'm going to make all screenshots save as *ClarisWorks* documents. Using the dialogue box, find *ClarisWorks* and double click it.

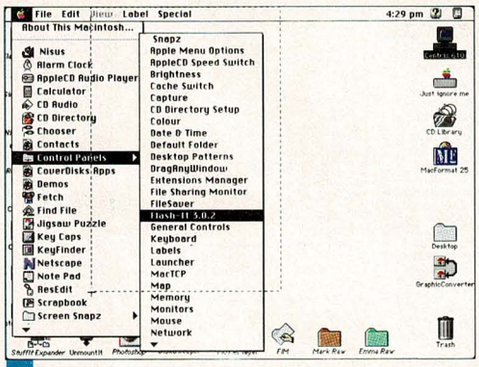
WHAT GIVES?

You may be wondering how I took a screenshot of taking a screenshot in step 4. I used *Snapz* from the MACFORMAT 21 disk. Although less elegant, it can capture some things that *Flash-It* can't. You may also care to know that other screen-grabbers are available on the market, all with varying capabilities.

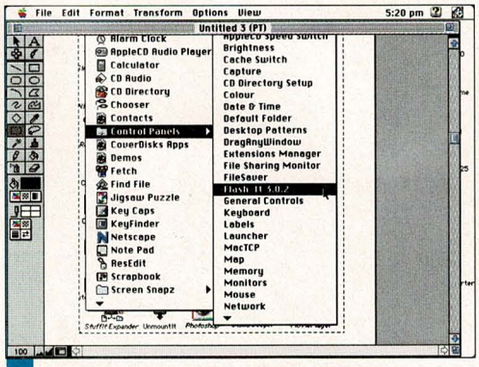
The next step

Now that you've set up *Flash-It*, you are ready to start taking screenshots. Below is a guide to creating a simple instruction pamphlet in *ClarisWorks*, although the techniques would apply equally to many other programs.

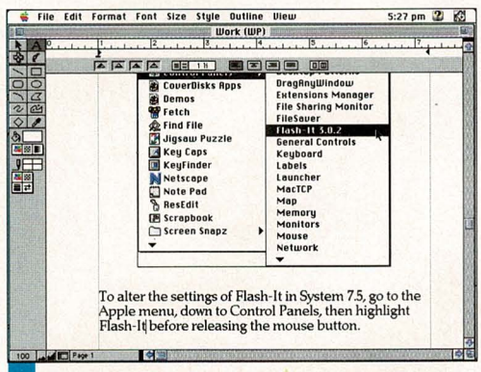
DEREK SMITH



4 Use the mouse to pull down the menu that you want to capture. Then, with the mouse button still held down, press the key combination you set up earlier in step 2. Now drag a rectangle over the area you want to capture. You will be prompted to select a location to save the screenshot.



5 Open a new Paint document in *ClarisWorks*, then choose **Insert** from the **File** menu, and select the image you just saved in step 4. You may need to drag the screenshot down the page to fit it all on. To edit the image and get rid of unwanted bits like these icons, just use the eraser tool.


To alter the settings of Flash-It in System 7.5, go to the Apple menu, down to Control Panels, then highlight Flash-It before releasing the mouse button.

6 To incorporate the image into a word processing document, lasso the whole thing, then select **Copy** from the **Edit** menu. Create a new word processor document, click on the pointer tool, then select **Paste** from the **Edit** menu. You can now add your text to finish off your document.

Reach for the Star!

Introducing the new 28.8K* MultiModemZDX. *The future of small footprint V.34 modems is now at hand.

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Patent pending Multi-Tech driver. The **Multi**Modem**ZDX** comes bundled with our VIRTUAL MODEM driver. It recognizes incoming calls as either data or fax and automatically launches the appropriate software under Windows™ 3.1. With other modems, you must designate data or fax receiving software prior to answering a call. Ours handles it automatically!

Increased buffer size with optional interface board. We bundle our powerful ISI551 intelligent serial interface board and cable for just a little more money. It provides you with an incredible 2,000 times more buffer than a standard 16550 UART, allowing you to achieve throughputs of up to 115K bps without losing data.

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And, it sells at an attractive price.

For more information, please call us. We're always ready to lend a helping hand.

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The right answer every time.

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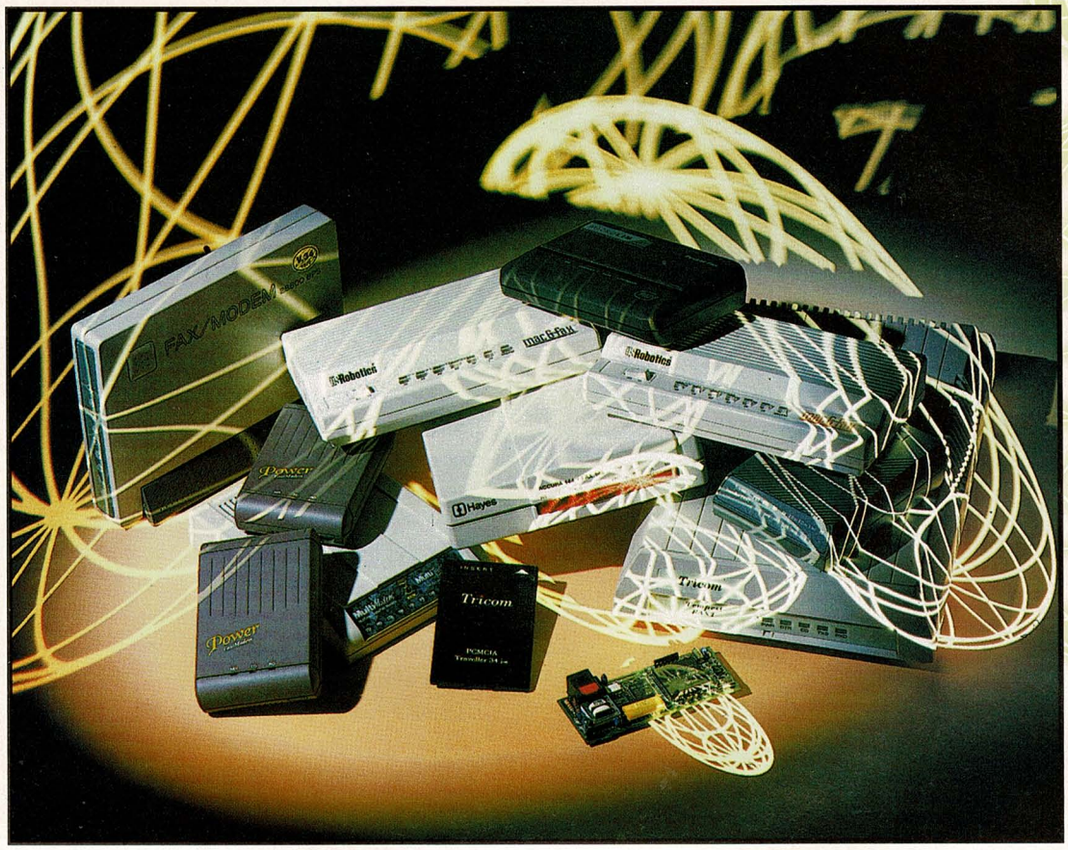


It's possible to send e-mail, faxes and any kind of data file over the world's telecom networks. But first you've got to get yourself a fax modem. Clive Parker tests ten of the best.

Modems are becoming more and more important in the rapidly expanding world of communications. The fax machine and the rapid expansion of the Internet have guaranteed that modems are becoming one of the most common peripherals added to a Mac system.

Fax capability is probably the most important reason to get a fax modem, although the rapid growth of the Internet is also an important aspect to consider. E-mail addresses are becoming almost as commonplace as fax numbers on letterheads and business cards. With the expanding number of commercial Internet service providers and access to the Net through LANs (local area networks) in many companies, it's hard to ignore the growing importance of the Net.

System requirements

You can use a fax modem with any Mac with a serial port. There are no specific minimum hardware requirements to use a fax modem – you're more likely to be restricted by the requirements of the fax, comms or Internet software you use. Many new fax and Internet applications need at least System 7 to run, and a memory hungry World Wide Web browser like *Netscape Navigator* needs at least 2Mb of memory assigned to it. As always, the more powerful your system, the better results you get.

Picking and choosing

There are a few points to keep in mind when you are choosing a fax modem. The first is buy the fastest you can afford. You should choose a modem with at least 14,400 bps (bits per second) connection speed, and modems capable of 28,800 bps are rapidly dropping in price – some now sell for under £200 on the street. (You'll see modems referred to as 'V.32bis' and so on. These are standard codes for modem speeds – see page 82 for details.)

Next, make sure that the modem you get is Mac compatible. Not all PC modems are compatible with the Mac. While almost all modems will work perfectly, there are some that just won't 'talk' to the Mac at all. This is because the Mac uses extra hardware handshaking which isn't always enabled on PC modems. Ensure that the modem you get has a Mac serial lead and Mac software with it.

Almost every fax modem is supplied with fax software of some kind, and some have a standard comms package included so you can connect to BBSs (bulletin board services). Usually the fax software is a cut-down – or Lite – version of commercial fax software. While the fax software supplied is usable, you should get a full commercial application if you are going to be using the fax capability of the modem as its primary function – see the fax software roundup on page 84.

MODEM UPGRADE

Generally speaking, modems, like cars, do not come with the benefit of an upgrade policy from modem manufacturers, although where the upgrade is a simple change of software in ROM then some (brand name) manufacturers are willing to assist.

WHAT IS A MODEM?

As our feature on Mac networks showed last month, it's easy to connect two or more Macs together. But other machines are not so lucky, and sometimes you want to talk to a computer in another country, so it makes sense to use the connections that already exist. Only problem is, those are telephone cables. So what you need is some means of translating computer output into a signal that can be transmitted over a phone line, then back again at the other end. In a nutshell, that's what a modem (MOdulator/DEModulator) does for you. Simple!

Express 28.8E

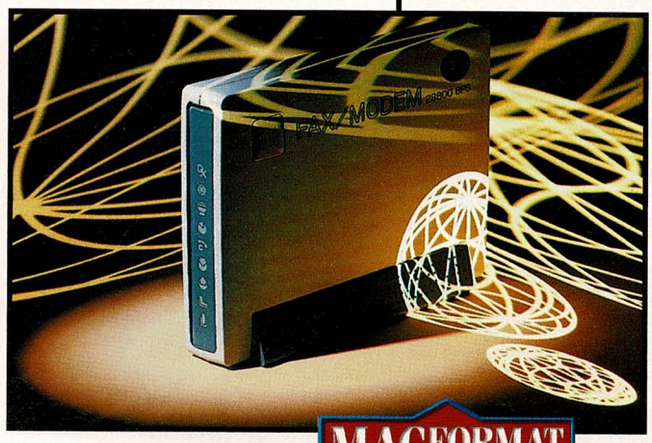
This sleek fax modem is a high performance, full V.34 modem that complements any serious Mac setup. The Express modem is a smooth beige box that stands upright next to your Mac with some rather clever legs that fold out to support it.

Price: £240.88.
For more details contact Express Technology on 01784 421123.

EASE OF USE	87%
VALUE FOR MONEY	92%
MACFORMAT RATING	90%

A front panel lights up with various icons when the modem is running – friendlier than the two and three letter codes that feature on most modems. The only control on the modem is the power switch; the usual 25-pin D serial port, power connector and phone line connector are the only other ports on the modem.

Fax Express and *Telefinder Pro* software are supplied with the modem, along with the all-important hardware handshaking cable – without it you can't get on-line. Setting up is a simple matter of connecting the modem to the mains, the phone-line and your Mac. Data transfers at speeds up to 28,800 bps work like a dream with connections to BBSs and other on-line services, with no problems interrogating remote systems.



When left running for several hours, neither the PSU or the modem itself show any signs of overheating. An excellent modem at an impressive price.

MACFORMAT Classic

US Robotics Mac & Fax

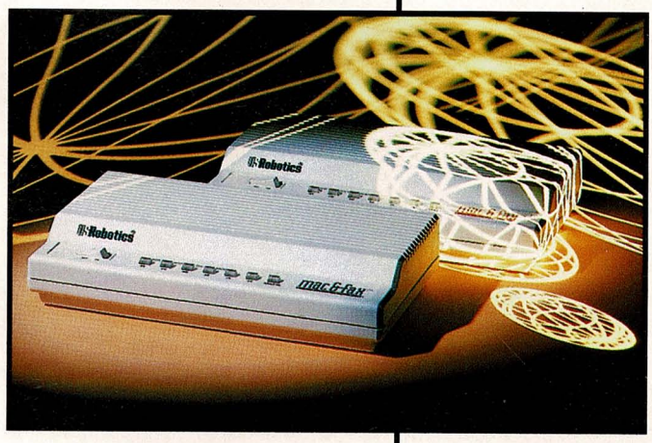
The Mac & Fax modems are the Mac versions of the popular Sportster range of fax modems for the PC, supplied with the correct Mac cable with hardware handshaking line essential for Mac comms, good fax software and – strangely – the *Windows CompuServe Information Manager* software for the PC.

Price: 14,400 baud: £233.83.
Price: 28,800 baud: £351.32
For more details contact US Robotics on 01734 228200.

EASE OF USE	89%
VALUE FOR MONEY	78%
MACFORMAT RATING	88%

The Mac & Fax is very easy to set up and use, and all Mac comms software has options for setting up US Robotics Sportster modems. The modem has a set of easy to access dip-switches on the rear panel with a full set of settings printed on the underside, so you don't have to look them up in the manual.

In use, the Mac & Fax is almost perfect. You run your comms software to make the connection and the modem does the rest. With the 14,400 model, V.32 bis connection speeds, V.42 bis compression and error correction ensure efficient data transfer whether you are using it as a data modem or as a fax modem. The 28,800 version offers full V.34 compatibility. Although it's quite high priced, you can get the Mac & Fax 14,400 for as little as £150, and the 28,800 for about £240 if you shop around. This makes the Mac & Fax an affordable and easy to use modem.



Pace Microlin fx 32 Mac

Not much bigger than a Walkman, the fx 32's connections are hidden under a small flap at the back of the modem. A three position power switch with On, Auto and Off selections is the only control of any type, and the usual telephone line port, 25-pin D serial port and the power supply connection are available. Alternative power for the modem is supplied by a standard 9v PP3 battery. A low power light indicates when there is just 15 minutes of power left, giving you time to finish what you are doing. The only other indicators on the modem let you know when it's on, when it's on-line and when data is flowing.

Price: £234.
For more details contact Pace Micro Communications on 01274 532000.

EASE OF USE	85%
VALUE FOR MONEY	89%
MACFORMAT RATING	87%

Clever built-in power saving features prolong battery life. In Auto mode, the power remains off until your Mac sends a DTR (Data Terminal Ready) signal to the modem or an incoming call is detected. The power is automatically shut off when you disconnect the modem from the computer.

The fx 32 is capable of sending and receiving group 3 faxes at up to 14,400 bps. Standard modem communications at V.32 bis using V.42 data correction and compression ensure the highest throughput possible. If your PowerBook hasn't got a built-in modem, then you should consider the fx 32 Plus.

Continued on next page

MultiModemZDX

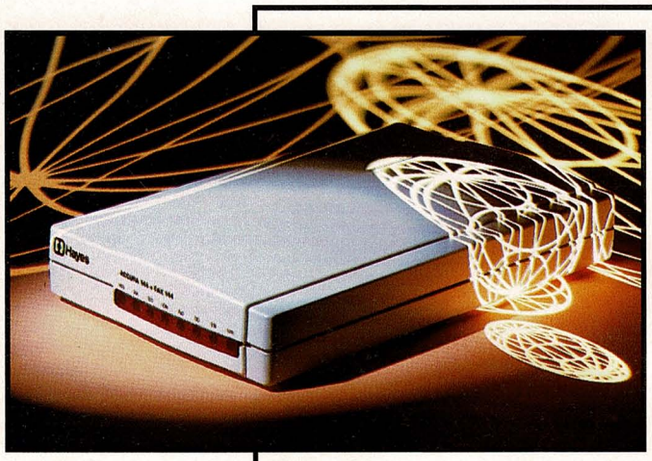
This modem from MultiTech is the same model that's bundled with the Computers Unlimited 'Internet in a Box' kit. It's a 14,400 bps fax modem capable of standard data transfer rates up to 19,200 bps and fax transmissions at up to 14,400 bps. The modem is styled in the traditional slab design, but is actually a very compact unit only about six inches by four inches in size. There's no way you're going to plonk your phone on top of this unit. The only connections are for the telephone line, the serial cable and the power supply. There's no power switch, so it's on as soon as you connect it to the PSU. The standard array of LEDs stud the front panel.

The MultiTech comes complete with a small but informative manual and a Mac compatible serial lead with hardware handshaking. Basic comms and fax software in the form of *MicroPhone LT* and *Fax Express* software complete the kit. The software is okay, but nothing to get too excited about.

In use, the modem is efficient and easy to operate. I never quite achieved the full promised 19,200 bps connections, but on several BBSs I managed to make connections at speeds higher than 14,400 bps. This is an ideal modem for the Mac, easy to set up and easy to use.

Price: £292.58.
For more details contact Computers Unlimited on 0181 200 8282.

EASE OF USE	85%
VALUE FOR MONEY	82%
MACFORMAT RATING	83%



Hayes Accura 144 + Fax 144

Hayes is the most famous name in modems. In fact, the industry standard command sets for modems were created by Hayes.

The Hayes Accura 144 is an attractive desktop modem cast in the original mould, large and chunky with an array of eight indicator LEDs across the front panel. The usual connections on the back for the serial cable, power supply, through telephone connection and telephone line confirm the traditional style. *Smartcom* Fax software and a Mac cable are also supplied as standard with the Mac version.

The modem is easy to set up, and the instruction manual is well written and dead simple to follow. Using the modem proved to be just as easy – several hours of downloading information from BBSs and the Internet went off without a hitch. Unfortunately, I did have a few minor problems with connection to one fax machine, although this was probably due to the specific fax machine itself rather than any fault with the modem or the supplied fax software. The Accura 144 proved itself to be extremely efficient and trouble-free, although it is rather high-priced for a 14,400 bps fax modem, and its overall rating suffers as a result.

Price: £210.33.
For more details contact Hayes on 1252 775500

EASE OF USE	85%
VALUE FOR MONEY	78%
MACFORMAT RATING	83%

Power PK-1440M and PK-2800M

This pair of modems are probably the smallest external modems available for the Mac and come in 14,400 and 28,800 bps flavours.

The modem is the size of a packet of cigarettes, and is designed for use with the Mac PowerBook range of portables. There's no power supply unit in the box, and no sign of a battery compartment. This is because neither is required. The modem cleverly draws its power from the Mac's ADB (Apple Desktop Bus) – that's the lead that connects the keyboard to the CPU unit and connects the mouse to the keyboard. There's an ADB socket on most PowerBooks, so you don't have to find a mains socket to get on-line. The modems draw very little power, so they shouldn't cause any problems with your Mac's ADB line.

A small manual explains how to set everything up, although it's pretty obvious where the connections go. The software supplied is *Delrina FaxLite*. I had no problems at all connecting to the Internet or bulletin boards and sending faxes with either modem using my normal comms software. Both the 14,400 model and the 28,800 connected at their advertised speeds without any fuss.

Price: PK-1440M: £137.48.
Price. PK-2880M: £252.63.
For more details contact Gasteiner Technologies on 0181 345 6000.

EASE OF USE	70%
VALUE FOR MONEY	85%
MACFORMAT RATING	77%

Tricom Tempest V.Fast

The Tricom Tempest is an impressively large fax modem and takes up a good chunk of your desk area. Designed in traditional slab style, it has surprisingly few LEDs studding the front panel – only five compared to the normal complement of eight or more. The back of the modem sports the standard 25-pin D serial connection, telecom connections and the power supply connection. All standard stuff.

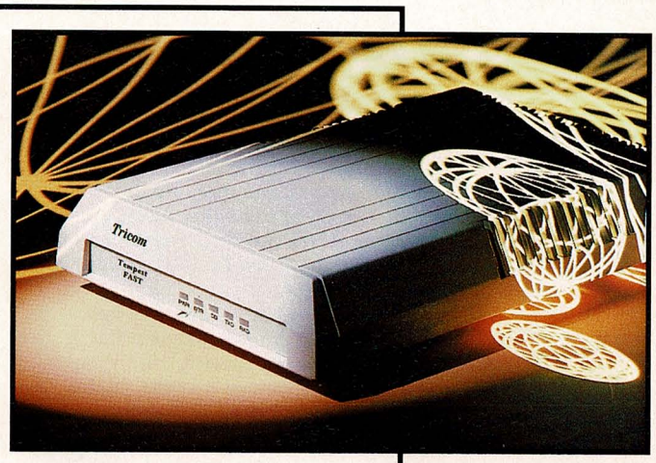
The fax software supplied is the *Delrina FaxLite* that most Mac modems seem to use, but there's no comms software supplied. When ordering a Tricom modem, you must specify that you want a Mac serial cable.

The modem was excellent in use, connecting to all BBSs and the Internet without any trouble. Sending faxes was just as quick and easy, without a single failure to connect to several fax machines. All in all, the Tempest worked perfectly in every test.

Although the modem is fast, efficient and BABT approved, it loses marks because it's significantly more expensive than some of the other V.34 or V.Fast modems on test. Priced more competitively, the Tempest would probably have been nearer the top of the league in this test.

Price: £465.30.
For more details contact Gomark Limited on 0171 731 7930.

EASE OF USE	82%
VALUE FOR MONEY	70%
MACFORMAT RATING	74%



Tricom Traveller V.Fast

The Tricom Traveller V.Fast is a small, neat modem that is perfect for use with a PowerBook. Although physically smaller than the Tempest, the Traveller is packed with all the standard features you'd find in a full size fax modem. The full set of LED indicators are present, together with power and telephone line-in and line-out sockets. The serial port is a mini-DIN type, similar to those found on Macs. There's even an additional parallel socket for use with PCs, along with PC driver software. A compartment for a 9 volt battery enables you to leave the PSU at home when you are on the road.

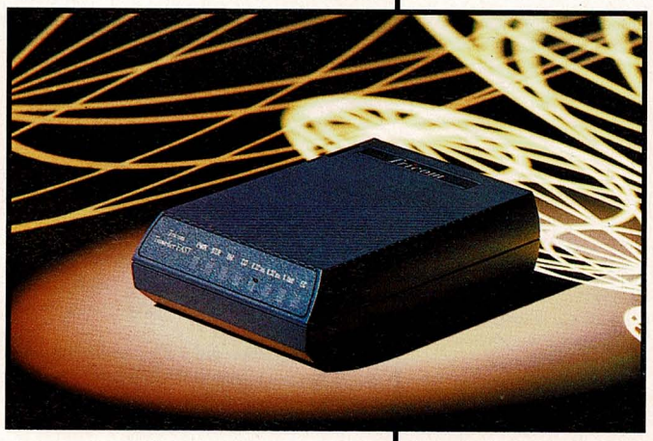
Although *Delrina FaxLite* fax software for the Mac is included with the modem, there was no Mac specific comms software provided. You must also specify a Mac serial lead when ordering the modem.

In use the modem works very well. Although it's a V.Fast modem rather than a full V.34 standard, I had no problems connecting to BBSs at speeds up to 28,800 or sending faxes.

The Tricom Traveller V.Fast is without question an excellent modem, but priced at over six hundred pounds, the high cost of this particular model tends to make it a less attractive option.

Price: £641.55.
For more details contact Gomark Limited on 0171 731 7930.

EASE OF USE	79%
VALUE FOR MONEY	65%
MACFORMAT RATING	70%



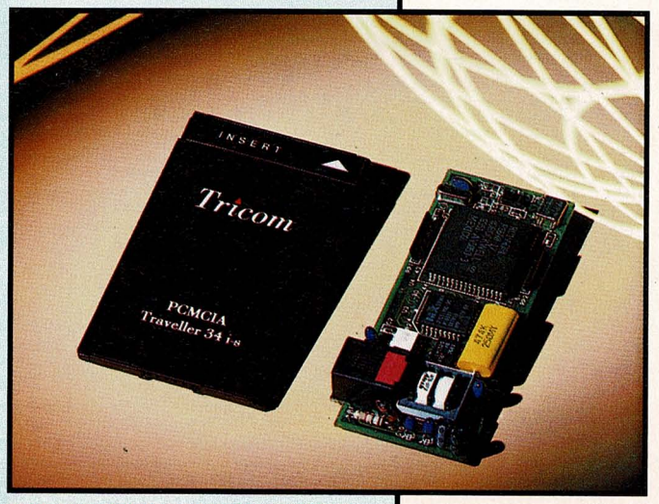
Modems on the move

You don't have to use an ordinary external modem if you have a Mac PowerBook. Almost all PowerBooks have a slot available enabling an internal modem to be fitted. You can also get plug-in fax modems for the PCMCIA card slots in the newer PowerBooks.

So why get an internal modem for your PowerBook? Well, it's neater and more efficient. With an internal modem, all you need is a cable to connect to a BT socket. With an external modem you usually end up using a power supply unit as well as the external modem, adding more equipment to carry about. Why should you have to carry three pieces of kit around with you when you only need to carry the PowerBook itself?

The advances in communications technology continue to outstrip the wildest predictions of the last decade. It's already possible to link a PCMCIA modem to a Cellular phone and connect to the Internet at very low call rates. Companies like Vodaphone are offering modem connections for as little as 10 pence per minute on-line. So now you can connect to the World Wide Web from a train, a car or from the middle of a field. Bizarre.

Most internal modems for the Mac PowerBooks fall in the £175 to £300 range. The Power PK-1440I from Gasteiner Technologies (0181 345 6000) is £175; the Tricom Traveller 34i-s PCMCIA card modem is a little more expensive at £626 from Gomark Limited (0171 731 7930).



Small, but perfectly formed, the Tricom PCMCIA card is the wave of the future. The more traditional card on the right is the Power PK-1440I.

Continued on next page

And finally...

With modems the trade off is between speed and price. At the moment, V.34 and V.Fast modems are still considerably more expensive than their slower, V.32 counterparts, but prices are dropping fast. In use, there's not that much difference between the various models, but some modems have trouble connecting to older fax machines.

Of the 14,400 models, the best of the bunch was the US Robotics Mac & Fax 14,400. It connected to everything attempted without a single failure. The recommended retail is high for a 14,400 fax modem, but it can be found at much lower prices from mail order companies – check the adverts in this issue.

The Express 28,800 is my choice as the best of the V.34/V.Fast fax modems, mainly because it is very affordable and is supplied with good fax and general comms software. It also made every connection without a single problem. The US Robotics Mac & Fax 28,800 is a close second to the Express, just edged out on price. The Tricom modems, although excellent, are probably more suited to the business market because of their comparatively high price.

SOFTER WARE

If you're going to be using a fax modem largely for faxes, it's worth investing in good commercial fax software – see page 84. However, some of the best software for comms (connecting to BBSs, sending e-mail, etc) may come supplied with your modem or is available as shareware, such as the excellent *Z-Term*. Watch for details of other programs in MACFORMAT soon.

THE BABT

The British Approval Board for Telecommunications is an independent body which was set up after the 'liberalisation' of the telecomms equipment market in 1981.

THE CCITT

In Europe the Committee Consulatif International Telephonique et Telegraphic (CCITT) exists to provide a means for standardisation of such things as data transfer methods and speeds, mobile and cellular radio links.

SIGN OF APPROVAL

In the UK, it's technically illegal to connect a modem to the BT telephone network which hasn't passed a stringent approval process. However, it's perfectly legal to buy or sell non-approved modems, and a large part of the UK market is made up of non-approved devices, mainly imports from the Far East.

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.
S/1010/3/H/500904

This is the label to watch out for if you absolutely must have an offical, BABT approved modem. There's one under your telephone – isn't there?

Approved modems are often more expensive than non-approved modems. We're not aware of any problems arising from using non-approved modems with a Mac, but you could face prosecution if you're caught using one – and a lot of hassle if technical incompatibilities fry your local telephone lines, though that's frankly unlikely.

So how can you tell the difference between approved and non-approved modems? When you buy a modem there should be a sticker on the box with either a green circle (approved) or a red triangle (not approved) letting you know. Some manufacturers print a 'fully BABT approved' flash across the box in lieu of the official sticker.

As a rough guide, if there is no approved sticker on the box, or there's no text or flash saying it's approved, you can almost certainly assume that it's not 100% kosher for use in the UK. In fact, most suppliers of non-approved modems usually state whether a modem is approved or not in their adverts. You can use the ads in MACFORMAT as a guideline to what to buy if you are concerned about using non-approved modems.

Most unapproved modems, if tested, would probably pass the tests anyway. Many modems made in the Far East are 'badged' with different manufacturers' names, so you may be able to buy the same modem under two different brand names, with one being tested and approved and the other being untested and unapproved. Yet the hardware is identical in both cases.

V.34 VS V.FAST3

As usual, technology marches ahead faster than regulatory bodies can keep up, and this has happened with modem protocols. Hence the slightly confusing two-tier system of V.Fast and V.34 protocols.

V.34 modems and V.Fast modems are both capable of zipping data along at 28,800 bps. The difference is that V.Fast modems were developed before the full approved specifications for the 28,800 bps standard were finalised. V.Fast is not actually a CCITT specification but a intermediate category code. However, it is a very capable standard with just a few specification changes from V.34.

CCITT Modem speeds

The speeds that match the standards.

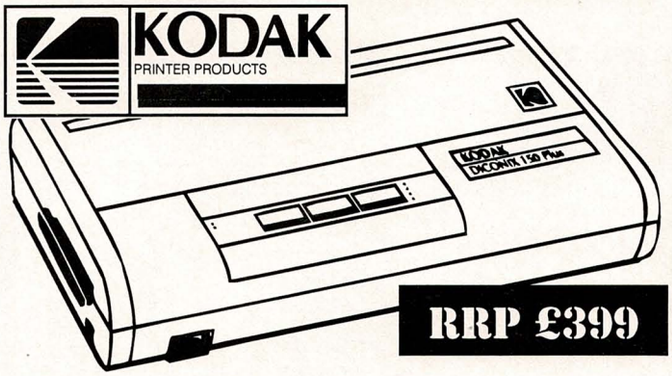
CCITT	Modem Speed (transmit-receive)
V21	300-300 bits per second
V22	1,200-1,200
V22 bis	2,400-2,400
V23	75-1,200
V32	9,600-9,600
V32 bis	14,400-14,400
VFAST Class	28,800-28,800
V.34	28,800-28,800

Fax Modems at a glance

Modem	Speed	Software	Supplier	Contact	Price	BABT approved
Accura 144	14,400	Smartcom Smartcom FAX	Hayes	01252 775500	£210.33	Yes
Express 28.8E	28,800	FaxExpress Telefinder Pro	Express Technology	01784 421123	£240.88	Yes
Mac & Fax 14400	14,400	MacComCenter	US Robotics	01734 228200	£233.83	Yes
Mac & Fax 28800	28.800	MacComCenter	US Robotics	01734 228200	£351.32	Yes
Microlin fx32 Mac	14,400	Delrina FaxLite CompuServe	Pace	01274 532000	£234	Yes
MultiModemZDX	19,200	FaxExpress	Computers Unlimited	0181 200 8282	£292.58	Yes
Power PK-1440M	14,400	Delrina FaxLite	Gasteiner Technologies	0181 345 6000	£137.48	No
Power PK-2880M	28,800	Delrina FaxLite	Gasteiner Technologies	0181 345 6000	£252.63	No
Tempest Fast	28,800	Delrina FaxLite	Gomark Limited	0171 731 7930	£465.30	Yes
Traveller Fast	28,800	Delrina FaxLite	Gomark Limited	0171 731 7930	£641.55	Yes

PORTABLE PRINTER SCOOP

KODAK PRINTER PRODUCTS



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Portable ink jet printer for Apple Mac and Powerbook computers; 150 CPS draft, 50 CPS NLQ, quality mode plus graphics (uses plain paper). Inc Macprint M150 print driver plus ATM software inc 13 typefaces.

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The M150 Plus weighs just 3.1lbs and measures 2" x 6.5" x 11" - fits easily into a briefcase. **LIMITED SUPPLY**

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QMS 860 HIGH YIELD TONER	£140.00
APPLE LASERWRITER SELECT 300 SERIES	£75.00
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APPLE LASERWRITER PRO/HP SERIES 4	£89.00
GCC SELECTPRESS 600/NEWGEN IP12/LASERMASTER 1200	£39.95
APPLE COLOUR STYLEWRITER PRO - BLACK	£8.99
APPLE COLOUR STYLEWRITER PRO - C/M/Y	£10.00
CANON BJ10E/STYLEWRITER	£17.99

Drums

GCC BLP/PLP II/OKIDATA 400/800 SERIES	£162.95
GCC BLP/PLP I/RICOH 6000/GQ 3500/LASERLINE 6	£99.50
GCC SELECTPRESS 600/NEWGEN IP12/LASERMASTER 1200	£425.00
LZR 1560/2080	£192.00
TEXAS INSTRUMENTS MICROLASER PRO 600 IMAGING UNIT	£143.00

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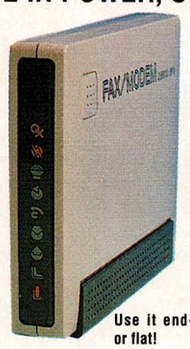

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SERIOUS SOFTWARE FOR SERIOUS USERS
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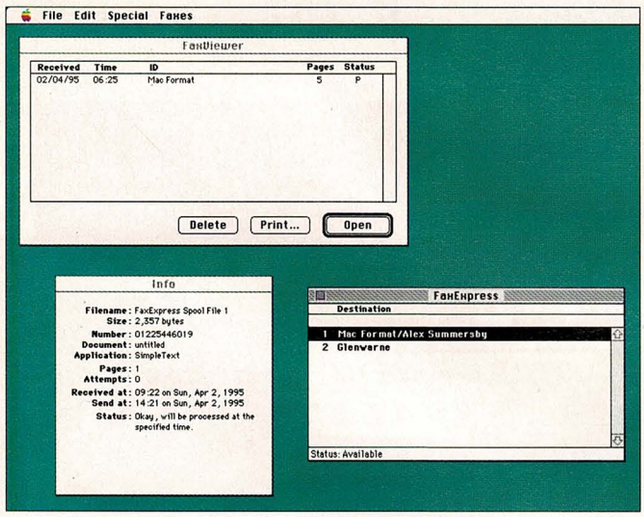
A matter of FAX

With fax software you can send out faxes more quickly and easily – no need to print out first! – as well as receive them straight on your Mac. Ofir Gal tests four Mac fax programs.

In this world of super fast communication, the fax modem is a very useful tool. Combining the attributes of the fax and modem, it not only enables you to transmit faxes but also enables you to get hold of the latest shareware and games software on-line.

The greatest advantage of faxing with your Mac is the quality of your faxes. Since no pre-scanning of the document is required, the result at the other end looks almost as good as a laser print. It is also a time saver since you don't have to print your documents before scanning them into your fax machine. You can send a batch of faxes unattended or even carry on using your Mac. The most obvious disadvantage is that you have to leave your Mac on 24 hours a day if you want to recieve faxes. Contrary to common belief, however, leaving a computer on is not such a bad idea – it doesn't consume much power and is very unlikely to 'burn out', although it's best to swich off the monitor when it's not in use.

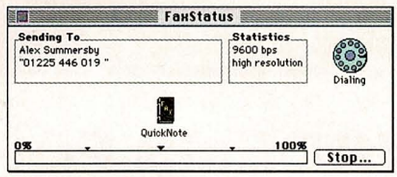


Fax Express comprises two applications. One controls the faxing process while the other is used to view faxes that have been received.

We put four of these Mac fax programs to the test: *Delrina Fax PRO v1.51*, *Fax Express Solo v2.8.6* , *FaxSTF v3.1* and *Value Fax v2.0.5*.

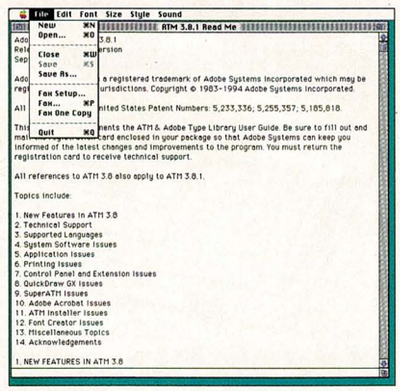
Installation and basic use

The programs all come with an easy to use installation program, so no problems there. All programs install several Extensions and Control Panels that you only find about in the manual. *Delrina Fax PRO* should be noted for producing a list of all installed items and their locations. The list can be saved or printed. *FaxSTF* requires you to select the modem you are using, which is fine if your particular model appears on the list. My obscure German made modem doesn't. *Value Fax* makes the job a little simpler by giving you only two choices – Class 1 and Class 2 (see the 'Classes' box for details of what this means). *Delrina Fax PRO* and *Fax Express* detect the modem type automatically but the latter only supports Class 2 and 2.0.



FaxStatus is a desk accessory that displays the activity of *FaxSTF* using colourful animated icons. It beats watching a grey progress bar inch across your screen.

Delrina Fax PRO and *FaxSTF* feature a more elaborate user interface, with icons and toolbars. Both have an array of features and user options. *Value Fax* also employs icons but to a lesser extent, while *Fax Express* has a plainer, down-to-business look.



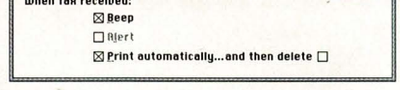
In all the programs reviewed here, holding down the user defined key combination changes the File menu to enable you to fax directly from any application.

Installation and basic use

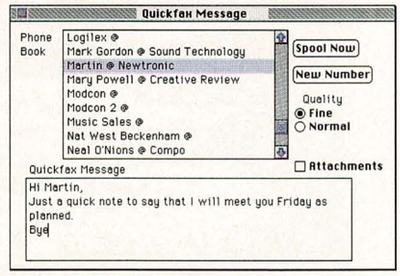
***Delrina Fax PRO* 80%**
***Fax Express* 75%**
***FaxSTF* 85%**
***Value Fax* 70%**

Sending faxes

Regardless of which program you end up using, sending a fax is as simple as printing. Typically you need to hold down the **[command]** and **[option]** key before selecting **Print** from the **File** menu. The relevant menu items, **Page Setup** and **Print**, are changed to **Fax Setup** and **Fax** respectively. In the Print dialogue box you can choose the standard options such as quality and page range. In addition, you have the choice of sending the fax immediately or scheduling transmission for a later time. Except for *Fax Express*, all the programs have an additional option that converts colour to grey-scale output. This greatly enhances the output quality when sending colour images. The next version of *Fax Express* (which should be available any time now) will also support grey-scale faxing. Users of *QuarkXPress* should note that *Delrina Fax PRO* does not produce correct grey-scale faxes



A feature of *Fax Express* is that it announces a received fax with a system beep. It can even print the fax automatically if you ask it to.



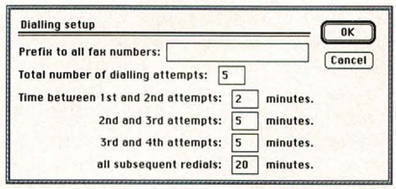
For those with an accelerated lifestyle *Value Fax* includes a small utility for writing quick faxes.

How Does It Work?

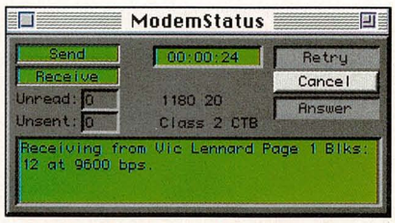
Fax programs on the Mac work by installing a Chooser Extension that works very much like a printer driver (the little bit of software that enables your Mac and your printer to talk to each other). You select the Fax driver in the Chooser and then just 'print' the document. The document is then converted into an image file which is transmitted down the phone line. Normally, a keyboard shortcut is also available, eliminating the need to use the Chooser. All the programs reviewed here support this feature.

This means you can use your favourite word processor to produce the fax, or even fax directly from a paint application. Except in the case of *Fax Express*, sending and receiving is accompanied by an optional progress indicator.

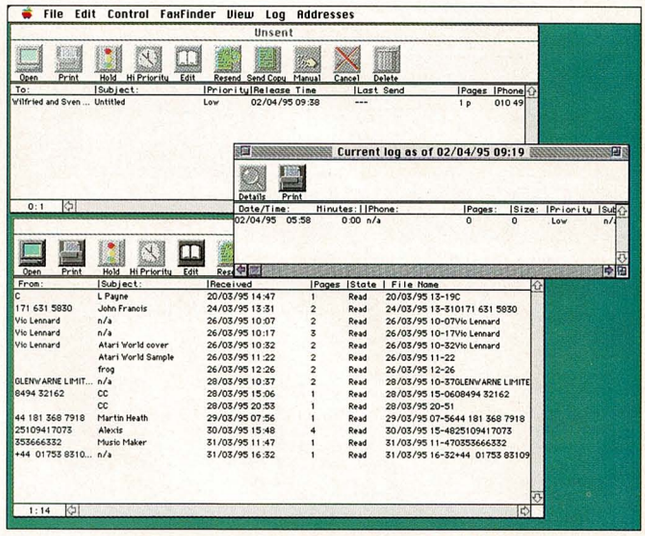
The other thing to note is that just as text is actually 'drawn' when you print on a laser or inkjet printer, all faxes are sent and received as an image, not as text. This means that when you receive a fax, you can't just open it using a word processor or cut and paste parts of it. It is possible to transform it into editable text, however – all you need is an OCR (Optical Character Recognition) program. This 'interprets' the graphic images and translates them into text for you – all without you having to print the fax out, though of course it works best with a clear, good-quality original.


Dialling setup
OK
Cancel
Prefix to all fax numbers:
Total number of dialling attempts: 5
Time between 1st and 2nd attempts: 2 minutes.
2nd and 3rd attempts: 5 minutes.
3rd and 4th attempts: 5 minutes.
all subsequent redials: 20 minutes.

But what happens if the line is busy? Simple! *Fax Express* can be set to redial as many times as you like.



Delrina Fax PRO includes the Modem Status desk accessory which displays any fax activity.



Fax PRO lists all incoming faxes in this window as well as an activity log. Simply double-click on a fax to display it.

with *Quark*, although it works perfectly with all other programs we tried.

Finally you need to select the fax number to send to. All the programs enable you to enter a new fax number or select one from a phone book list. The document is then converted into a fax image file and sent out. While all four programs send the fax in the background so you can carry on using the Mac, *FaxSTF* and *Fax Express* go further by creating the fax image in the background as well. The time saving is most noticeable when sending complex documents from a DTP package for example.

All programs except *Fax Express* come with a fax writing utility, mainly for sending quick notes. The *Delrina Fax Writer* application is much more flexible, allowing selection of fonts and text frames. The package also includes a small program called *FastFax*. Place this on your Desktop and you can drag-and-drop documents onto its icon for immediate sending.

Sending faxes

***Delrina Fax PRO* 85%**
***Fax Express* 75%**
***FaxSTF* 80%**
***Value Fax* 75%**

Receiving faxes

With all the programs you receive faxes automatically. You can determine how many rings the program waits before answering. This is most useful if you have a separate line, but if you would like to use your existing phone line you can also use manual receive mode. In this mode you are able to first pick up the phone, then, if you hear a fax bleeping at the other end, select the manual receive menu option and put the receiver down. The fax is then received as normal.

Delrina Fax PRO indicates that unread faxes have been received in the Modem Status program which is started automatically whenever you send or receive a fax. *Value Fax* and *FaxSTF* display a fax icon in place of the Apple one at the top left. *FaxSTF* even plays a telephone ringing sound as a reminder when you move the mouse for the first time. *Fax Express* has no such indication, so you have to look at the 'received faxes log' for new, unread faxes.

Receiving faxes

***Delrina Fax PRO* 80%**
***Fax Express* 80%**
***FaxSTF* 90%**
***Value Fax* 80%**

Viewing and printing

Once a fax has been received, you can view or print it by running the fax manager or fax viewer application. The faxes are listed in the 'received faxes log' window with new, unread faxes marked as such. A double-click on a fax displays it. All four programs allow various zoom modes, but *Delrina Fax PRO* has a special dithered display that works very well for viewing both text and grey-scale images. Unfortunately, the dither mode is very slow – and even when this is disabled, *Delrina Fax PRO* is very slow to display faxes. However, this problem will be addressed when *v2* is released later this year.

Printing from all four programs is as straightforward as it could be. Just select **Print** from the **File** menu. *Delrina Fax PRO* and *FaxSTF* use a toolbar for these options. Automatic printing when faxes are received is also possible in all programs except for *Value Fax*.

All programs keep a log of all faxes sent or received, including failed attempts such as 'no answer' or 'busy line'. All programs except *Value Fax* enable you to enter some text to the fax description for later reference. *FaxSTF* and *Delrina Fax PRO* also enable you to change the display order and even search for items. Surprisingly, none of the programs on review has the ability to mark faxes for later attention. Once you view a fax you simply have the option of deleting or keeping it.

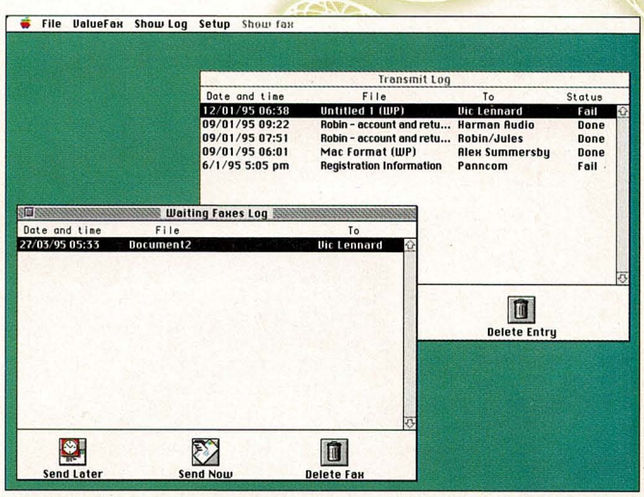
Viewing and printing

***Delrina Fax PRO* 85%**
***Fax Express* 75%**
***FaxSTF* 80%**
***Value Fax* 65%**

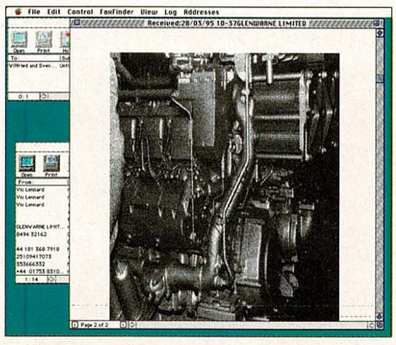
Extra features

All fax programs receive faxes as graphics, not as text. *FaxSTF* and *Delrina Fax PRO*

Continued on next page


File ValueFax Show Log Setup Show fax
Transmit Log
Date and time File To Status
12/01/95 06:38 Untitled 1 (WP) Vic Lennard Fail
09/01/95 09:22 Robin - account and retu... Harman Audio Done
09/01/95 07:51 Robin - account and retu... Robin/Jules Done
09/01/95 06:01 Mac Format (WP) Alex Summersby Done
6/1/95 5:05 pm Registration Information Penncom Fail
Waiting Faxes Log
Date and time File To
27/03/95 05:33 Document2 Vic Lennard
Delete Entry
Send Later
Send Now
Delete Fax

Like the other programs, *Value Fax* keeps a log of all incoming and outgoing faxes.



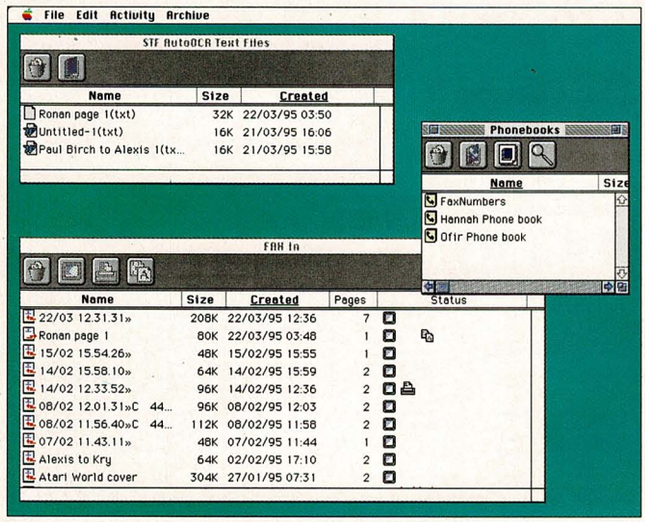
Fax PRO uses a dithered display mode that works miracles on incoming grey-scale faxes.

CLASSES AND GROUPS

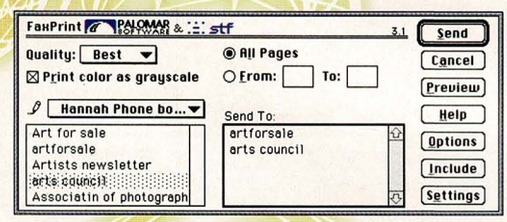
Just as you'd expect, as with all bright new ideas, there are several non-compatible and confusingly named fax-modem standards. Too much attention is given to these standards – in practice most Mac fax programs can cope with all standards. But just in case you wondered...

All fax machines in operation today conform with the Group 3 standard. So do all fax-modems we have come across. Most fax machines operate at a speed of 9600 baud (9,600 bits of information per second), which in effect means that sending a page takes just under a minute. Some newer models can send and receive faxes at 14400 baud, and some older models only work at 4800 baud. Every fax transmission starts with a few beeps and blips. This is when the sending and receiving fax machines negotiate the best speed to work at. Unless the phone line is bad, the machines will choose the highest speed possible.

Fax-modems are a little more complex since they rely on the fax application to do some of the work. There are three standards to contend with: Class 1, Class 2 and Class 2.0. (The last of these came about after the parties involved failed to standardise Class 2.) These standards only determine the way the Mac interacts with the fax-modem and have no bearing on speed or quality. When buying a fax-modem and a fax program, make sure they are compatible with each other!



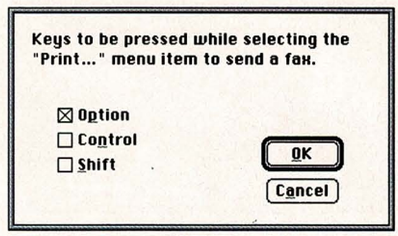
FaxSTF displays icons alongside incoming faxes indicating which were viewed, printed or converted to text.



Selecting **Fax** from your word processor displays the fax equivalent of the **Print** dialogue box. This one is from *Fax STF*.

feature an Optical Character Recognition (OCR) option that enables you to convert faxes into editable text. Both OCR systems are very good but require around 4Mb of free memory to work. The results are remarkable, but there are no user options to enable learning of typefaces. *FaxSTF's* OCR can do its work in the background, which is useful as the process can be lengthy. All programs also enable you to export the fax as a PICT or TIFF file if you wish to use a dedicated OCR system. *Value Fax* saves faxes as PICT files, so no conversion is needed.

While on the topic of file import and export: *Value Fax* takes the simple approach of using simple text files for the phone book. This enables you to directly export and import from a database.



The keyboard command that activates the Fax options can be configured from this *Value Fax* dialogue box.

FaxSTF and *Fax Express* feature import and export of phone books, while *Delrina Fax PRO* only supports import. Each of the programs except *Value Fax* manages multiple phone books, but all of them enable you to send the same document to several recipients. *Fax Express* and *FaxSTF* use a convenient pop-up menu to switch between the phone books, while *Delrina Fax PRO* uses the Open dialogue box.

FaxSTF comes with a developer's kit enabling the program to be linked with a database. *Fax Express Solo* may be extended using 'externals' which make the program AppleScript-aware – that is, you can automate functions by writing routines in AppleScript which the program will understand and execute – but these 'externals' cost an additional £26. *Fax Express Multi* is a network version that enables multiple users to share several modems.

Extra features

***Delrina Fax PRO* 80%**
***Fax Express* 75%**
***FaxSTF* 90%**
***Value Fax* 60%**

The best on test?

It's difficult to choose a clear winner out of these four packages. All of them do the job well and work reliably. It is simply a case of which features suit your needs. *Delrina Fax PRO* and *FaxSTF* are ideal if you require an OCR function – that is, if you don't just read or print out the faxes you receive but also want to incorporate the text into word processing documents, for instance. If you expect to receive many grey-scale faxes then the dithered display option of *Delrina Fax PRO* will come in extremely useful. *Fax Express* offers a simple, straightforward approach with optional network facilities and may be ideal for business use. *Value Fax* offers extremely good value for money, but lacks the extra features found in the commercial offerings. In this respect, Mac users are lucky to have a choice between several high quality products, but overall *FaxSTF* has to be the best choice as it offers a wide range of features for a moderate price. **MF**

OCR

OCR (Optical Character Recognition) software enables you to incorporate text on a received fax into a word processing document. For more details on OCR, see MACFORMAT 19.

VALUE FAX 2.0.5

Price: £15 (shareware)
Requires: Mac Plus or better, System 6.0.5 or later, 2.5Mb of RAM, 2Mb of hard disk space.
For more details contact Pancomm on.001 408 865 0110 (fax) or **valuefax@netcom.com**

FEATURES 80%
A simple and basic program, with a few surprises such as greyscale faxing.

EASE OF USE 85%
Quite easy to use, thanks to the simplicity of the program.

DOCUMENTATION 80%
No printed manual but a very good disk manual is provided.

VALUE FOR MONEY 90%
You get a lot for your money, but fewer features than commercial alternatives.

MACFORMAT RATING 83%

FAXSTF 3.1

MACFORMAT Classic

Price: $99 (street price: £70.44).
Requires: Mac II or better, System 7 or later, 4Mb of free RAM (5Mb for OCR), 7Mb of hard disk space.
For more details contact STF Technologies (US) on 001 816 463 1088 or Mac Warehouse (UK) on 0800 181 332.

FEATURES 95%
No lack of features here.

EASE OF USE 85%
Very user friendly, especially considering the number of features.

DOCUMENTATION 90%
A comprehensive manual.

VALUE FOR MONEY 95%
Extremely well priced.

MACFORMAT RATING 92%

DELRINA FAX PRO 1.5.1

Price: £116.32 (street price: £95).
Requires: a Mac Plus or better, System 7 otr later, 2Mb of free RAM (5Mb for OCR), 4Mb of hard disk space.
For more details call Delrina on 0181 207 6163.

FEATURES 90%
Plenty of features and user options but not as flexible as it could be.

EASE OF USE 85%
Simple to use with a nice colourful user interface.

DOCUMENTATION 90%
A well thought out manual.

VALUE FOR MONEY 80%
A little expensive when compared to the competition.

MACFORMAT RATING 87%

FAX EXPRESS SOLO 2.8.6

Price: £81 (street price: £70.44).
Requires: SE or better, System 6.0.3 or later, 0.5Mb of free RAM, 1Mb of hard disk space.
For more details contact Glenwarne on 01753 892230.

FEATURES 80%
Not overloaded with features.

EASE OF USE 90%
A plain and straightforward user interface that is very easy to master.

DOCUMENTATION 90%
An excellent manual, written concisely and clearly.

VALUE FOR MONEY 85%
Cheaper than the competition, but with fewer features to offer.

MACFORMAT RATING 87%

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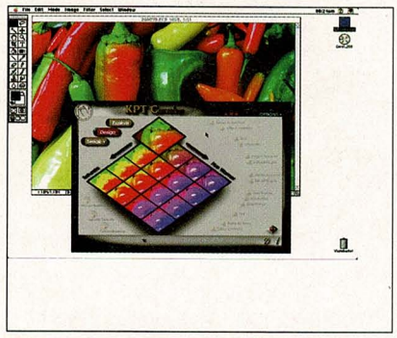
KPT Convolver

Great to look at and fun to use, but does *Convolver* present a serious alternative to *Photoshop*, or is it just a frivolous mimicry? Marcus Dyson weighs up the pros and cons.



The Design tool plots *Convolver* effects down two axes of the grid. Both can be set by the user. The resultant image gives 15 possible effects.

KAI KRAUSE

For more insight into the man behind the program, check out the Macroscope interview with Kai Krause in issue 23 of MACFORMAT.

PHOTOSHOP 3.0

If you haven't got *Photoshop 3.0*, try out our CD-ROM demo in issue 24 or read our review in MACFORMAT 23.

Boy! That Kai Krause bloke's a bit clever, isn't he? Three minutes into playing with *Convolver*, after spending a few minutes reading the pretty insignificant manual, I was ready to give it real kicking. Maybe it was my jealousy at his cool Californian name, maybe I took umbrage at Kai having made squillions of dollars making my favourite program even better, or maybe I was just sore that he looks more like Jon Kay out of Steppenwolf than I do. But I really like to think that it was because I thought *KPT Convolver* was frivolity without functionality. And in a way I was right, but in another I was very, very wrong.

The problem with *Convolver*, or the apparent problem, is that it doesn't enable the user to do anything that they couldn't already do with a copy of *Photoshop*, or any other professional quality image processor. The fact that *Convolver* comes packaged with a special edition copy of *Color It* served to reinforce my suspicions that this was more of a toy than a serious tool. At first I thought that *Convolver* was just an appropriate add-on to the more modest paint and photo retouching programs which could accept *Photoshop* Plug-Ins, exactly like *Color It* or *PhotoFix*.

But I had a review to do, so like it or not, I was going to have to play with *Convolver*. And play I did – learning to use *Convolver* is as easy as learning to fall off a log. Put *Convolver* in the Plug-Ins folder of your Plug-In compliant package, run the program and *Convolver* is there in your Plug-Ins menu. Open it and you'll immediately be struck by how different it looks from other Mac software – unless you've already seen *Kai's Power Tools* and *KPT Bryce*. Kai Krause believes that no matter how good the Mac interface is, it's still not good enough. So instead he gives us striking front-ends which conceal (but avail) a hugely powerful user interface.

Convolver has a well written, comprehensive but short manual – not surprisingly for software designed to 'hide complexity from the user'. You can read the *Convolver* manual if you want, but you really won't need to: after five minutes of clicking and playing around with the few controls there are, you'll be competent. For those who don't know exactly how competent they've become, Kai has put in a little reward system. As you use the functions of *Convolver*, the package monitors your progress and awards stars for increasing ability. Each new star's accompanied by a message which you can refer to later by **[option]**-clicking on the star. This endeavour/reward system, while a little patronising at first, soon becomes compelling, and it's an excellent way to encourage users to explore the interface.

The first star is just a pat on the back for playing with *Convolver* for a while. But when you're awarded your second star, a new button appears at the bottom right of the *Convolver* window. Activate this and you see a split screen view of the effect that is being created against the original image. Clicking on the 'Kai' logo on the top left minimises the *Convolver* window to reveal the image below. The third star brings with it the algorithmic tint wheel used in 'Tweak' mode, and the fourth delivers the very useful 'memory dots'. As

Convolver gives you three ways of displaying the image you're working on: the normal view repeats the same portion and applies different effects; the large view applies the current effect to one image; and the comparison grid (above) applies a range of effects to adjacent parts of the same image.

Distorting the Truth

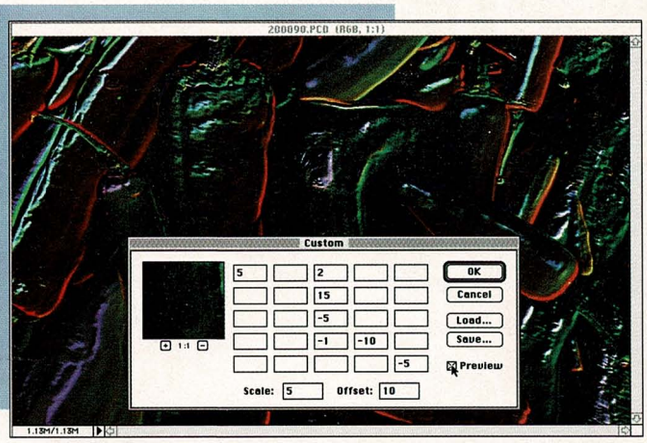
By comparing the immediate result of your convolutions with the original image, *Convolver* helps you avoid ending up with something resembling a Jackson Pollock.

A CONVOLUTED TALE

What are convolutions? Convolutions are the mathematical processes by which virtually all image processing functions are performed. Whether it be lightening or darkening an image, making hue and contrast adjustments or performing an edge detection, these actions are performed within the image processing program by means of changing the values of a convolution matrix.

If you decide to perform an Adjust Contrast/Brightness in *Photoshop*, for instance, when you adjust the slider control the program interprets the value you enter to a series of numbers in the matrix, which causes the image to change in a predictable fashion. In this example it alters the brightness of the image.

If you want to see what a convolutions matrix looks like, take a look at the Other/Custom options in the File menu in *Photoshop 3.0*. Try typing some numbers into the grid and see what happens to the image. It's not easy to create an attractive, much less a useful image, and that's where *KPT Convolver* comes in – it does it all for you with its simple point and click interface!



Just about all the effects in *KPT Convolver* can be achieved from within a powerful image processor like *Photoshop*, if you've enough time, patience and skill.

for the fifth... well that would be telling too much. Oh go on then, I haven't earned that one yet!

So as you earn stars, the program becomes more powerful. This is an excellent way to prevent you from being daunted by an unfamiliar interface from the start.

In function, *Convolver* breaks down into three areas, and while they all do the same things (more or less) they go about the delivery of these results in markedly different fashions.

'Explore' mode gives you control of certain parameters of the applied effect, then generates a grid of randomly created images within those parameters. You can select one as your final image, or as the basis for further exploration.

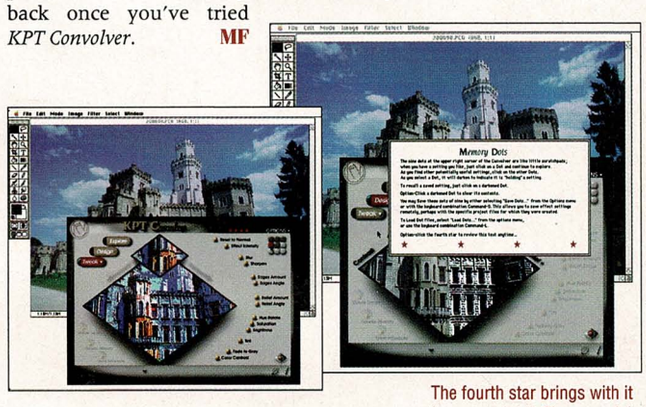
'Design' mode works in a similar fashion, but since you place the effects as axes on the side of the grid, the results are more predictable and controllable.

'Tweak' mode, as its name suggests, offers the most control, and is most likely to be used to finalise an image created in either of the other two modes.

This three pronged approach to achieving the same results is refreshing and revolutionary. All the effects created by *Convolver* could be achieved in the 'Tweak' mode alone, but that would be a much less user friendly way of doing things. And if there's one thing that *Convolver* is, it's user friendly!

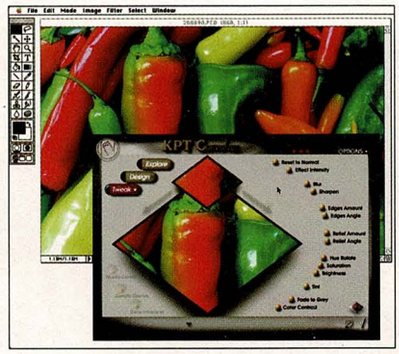
Should you buy *Convolver*? If you're a professional designer with a good knowledge of *Photoshop*, possibly not. It won't give you any new creative possibilities, and if you're very good, it may not even save you time. On the other hand, if you find all (or just some) of *Photoshop's* **Image** and **Filter** menus unfathomable, then this program's absolutely guaranteed to enable you to use, and use creatively, almost all the functions of those menus.

And if you don't have *Photoshop* at all? Then get this now! You don't need *Photoshop*: *Color It*, packaged with *Convolver*, is a fun and very capable little paint package. Shove *Convolver* in its Plug-Ins folder and it is a simple-to-use kick-ass image processor too. There's just no turning back once you've tried *KPT Convolver*. **MF**

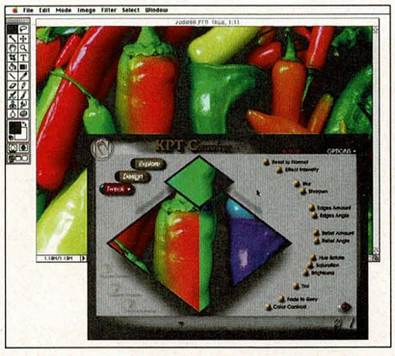


The fourth star brings with it 'memory dots'. These useful buttons enable you to store the settings of a particular effect for use on other images. This is great when attempting to batch process a series of files to achieve a similar result on all of them.

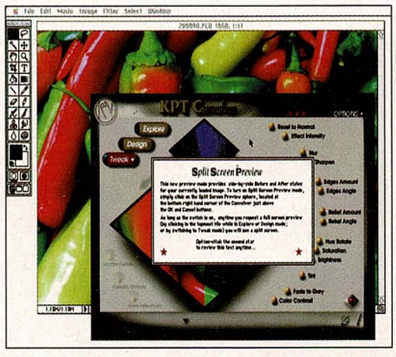
In 'Explore' mode, *Convolver* can be set to affect colour only (as here), texture, or both simultaneously.



'Tweak' mode offers the most precise control over an image: to apply an effect, click on a button and drag.



The second star gives you a split vision facility to directly compare an effect against the original image.



To activate the split view, simply click on the button that appears on the bottom right of the screen.

CONVOLVER

Price: £152. Out: now.
Requires: any Macintosh with an FPU or a Power Macintosh. System 7.0 or later. *Convolver* is a Plug-In, so it requires sufficient memory to run the host program plus 3Mb.
For more details contact Principal on 0181 813 5656.

FEATURES — 40%

Let's face it. If you have a decent image processor, *Convolver* will not give you any new features...

EASE OF USE — 96%

...but what it will do is make the ones you already have a whole lot easier to use.

DOCUMENTATION — 60%

What there is is good-ish. But we're moving towards documentation-less applications here!

VALUE FOR MONEY — 87%

More than the sum of its parts. *Convolver* is cheap, easy to use, fun and powerful. Oh, and revolutionary too!

MACFORMAT RATING — 90%

COLOR IT

Color It is a cheap, fun and capable 24-bit paint package which has been on the market for a while now. It has a good customised tool palette and basic image processing ability. Couple it with the power of *Convolver*, however, and you get only the best of *Color It*. A great team.

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The Cartoon History Of The Universe

As well as the history of the universe, this CD has bits that demand a bit of puzzle-solving... and patience.

This sly, irreverent CD-ROM romps through Man's early years and blows animated raspberries at the establishment – but exactly who does *Cartoon History* think it's kidding?

Larry Gonick's series on the history of human civilisation is a little-known comics classic, showing how good the comics medium is as a means of education. Now Putnam New Media has taken the comic and expanded upon it to make this double CD-ROM.

Puttering onto the screen, a friendly robot is your guide through the history of mankind, from the day we crawled out of the swamp to the rise of the Greeks. Pausing to ask you for your name, it whisks you into a room filled with objects, where all the action takes place.

Unlike many of the rooms you'll find in many other CD-ROMs, clicking on an object here gives you much more than just an uninspired sound effect. The pyramid model, for example, leads to a thrilling journey into the heart of one of the great pyramids of Egypt. QuickTime video and Mac animation blend together to provide an enjoyable mix of sightseeing and puzzle-solving. The video challenge sections are so good they only leave you wanting more.

Crackling with electricity in the centre of the room is the time machine. Inside, you'll find volumes one to seven of the *Cartoon History*. Any volume can be plugged into the time device so you can read it. The seven volumes are split across the two CD-ROMs, but other parts – like the video extravaganzas hidden in the main room – are on both discs.

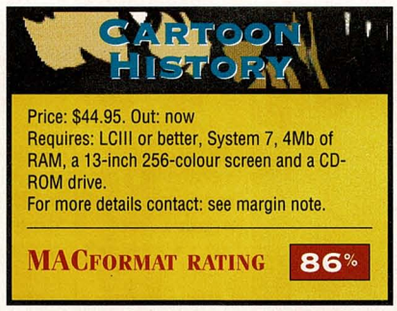
It's comical

The comic pages are presented in a similar way to the CD-ROM version of *The Mask* (reviewed in MACFORMAT 23's comics special), dividing the panel arrangements into screen-sized chunks. Unlike *The Mask*, *Cartoon History* makes the best of a bad lot by using animation effectively. The visuals work beautifully with the soundtrack, often making you laugh out loud in spite of their simplicity.

Despite the earthy directness of the way the story is told, the ideas that *Cartoon History* deals with offer food for thought. Gonick shows how the shape society adopted and the development of technology are related. For instance, he relates how the patriarchal society and sexist notions we labour under today may be connected with the rearing of farm animals. [*Huh? – Ed*]

The scope of *Cartoon History of the Universe* is breathtakingly ambitious, but the ideas are so clearly put across that it all seems simple. A weakness of the program is that you're never too sure who it's aimed at. The puzzles range from simplistic (and in the case of the maze, so simplistic it gets dull very quickly) to completely impossible. And the comics pages contain some bawdy material – you can use a Parental Guidance option to remove the bookmarks that will lead a child straight to the references to sex, but the mentions themselves remain there.

Cartoon History of the Universe may not be too clear about who it's talking to at times, but it sure knows how to entertain and educate in fine style. Its flaws are minor, and those of an unusual, individual package, which at least had the courage to aim high. **RICHARD HILL**



Price: $44.95. Out: now
Requires: LCIII or better, System 7, 4Mb of RAM, a 13-inch 256-colour screen and a CD-ROM drive.
For more details contact: see margin note.

MACFORMAT RATING 86%

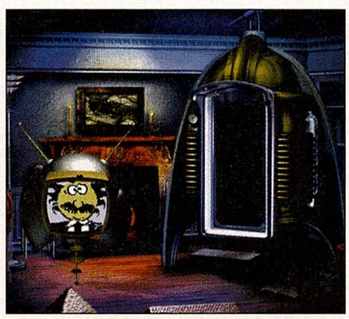
CLOSING DOWN

As we went to press, Putnam New Media told MACFORMAT it would have closed down by the time you read this. It is currently talking to other publishers about selling *Cartoon History* and its other CD-ROMs to them. We'll let you know how things work out, but *Cartoon History* should still be available from mail order dealers.

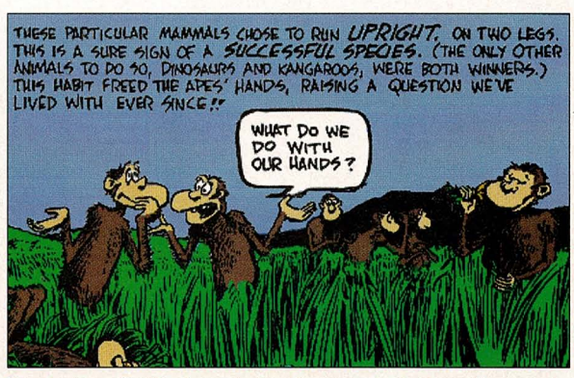
Continued on next page

BEFORE GOING FURTHER, WE SHOULD EXPLAIN THAT NEANDERTHAL BABIES, LIKE BABY APES, WERE BORN WITH HIGH FOREHEADS, WHICH RECEDED AS THEY GREW UP AND THEIR FACES GREW OUT...
ABOUT 150,000 YEARS AGO, AT ONE OR MORE PLACES AROUND THE WORLD, SOME FOREHEADS FAILED TO RECEDE PROPERLY AT MATURITY!
WON'T SOMEBODY MARRY MY BABY-FACE?
DESPITE THEIR UNUSUAL HEADS, THESE FREAKS MANAGED TO REPRODUCE SOMEHOW.
I'M DEVELOPMENTALLY BACKWARD, YOU'RE PATHETICALLY STUPID, LET'S GET MARRIED!
MAKES SENSE!
IT SOON BECAME CLEAR THAT BABY-FACES HAD AWESOME MENTAL POWERS.

Larry Gonick's *The Cartoon History of the Universe* is a comic classic, and this CD of it features simple but effective animation throughout.



Welcome to the time machine room – your host is a friendly robot with a bizarre accent.


THESE PARTICULAR MAMMALS CHOSE TO RUN UPRIGHT, ON TWO LEGS. THIS IS A SURE SIGN OF A SUCCESSFUL SPECIES. (THE ONLY OTHER ANIMALS TO DO SO, DINOSAURS AND KANGAROOS, WERE BOTH WINNERS.) THIS HABIT FREED THE APES' HANDS, RAISING A QUESTION WE'VE LIVED WITH EVER SINCE!!
WHAT DO WE DO WITH OUR HANDS?

Complex ideas, like this demonstration of natural selection in practice, are put across in a most accessible and entertaining way. Darwin would be impressed.

A Brief History of Time

Stephen Hawking's best-seller on the workings of time and space was as impenetrable as a black hole for some readers – can this CD-ROM make anti-matter easier to swallow?

Professor Stephen Hawking is the brilliant mind behind the fantastic journey into infinity on the CD-ROM version of *A Brief History Of Time.*

Stephen Hawking embodies the extremes of human potential – a magnificent brain in a body that can barely move. The technology of the twentieth century has released his mind from its physical cage, to question the entire scientific basis that technology is based upon. His complex, challenging thesis on the nature of time and space is already a best-selling book, an acclaimed film – and now a mass market CD-ROM. Nothing is really as it seems in Hawking's world.

You can see the story of the Big Bang in any order you like by adjusting the gauge at the side of the window.

In *A Brief History Of Time*, Hawking takes the theories of Newton and Einstein and shows how they might be turned on their heads. He reminds us that the way we think the universe works is based on belief, not immutable fact. He lets us gaze at the fragile wonder of creation as if we are seeing it for the first time. And sounds like a Dalek while he's doing it.

Produced by Crunch Media, the CD-ROM version of *Brief History* is more playful than the original book, contrasting Hawking's dense prose with childlike animation that reminds you at times of Terry Gilliam's *Monty Python* work. You begin in a room with the typical multimedia array of objects to click on. Most of these take different routes around the same basic material of Hawking's narration and Crunch's pictures. Take the route you prefer depending on your own cosmic point of view.

If you favour the traditional, linear view of time, you can follow the text of the book chapter by chapter – as far as the program lets you. Once you stray off the path to view one of the animated pieces, you may never find your way back, as you usually can't return straight back to the same page. The CD-ROM seems to be as determined to challenge your approach to using it as Hawking is determined to change your perceptions on a wider plane.

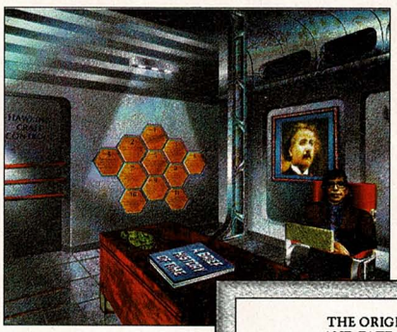
'Hawking lets us gaze at the fragile wonder of creation like we are seeing it for the first time.'

It's better to take a more cavalier outlook and just explore – especially as it isn't particularly comfortable to read many pages at once. Here's a biography of Einstein, while over there waits a guide to earlier portrayals of our universe. The earth was once flat, or the sun orbited around us – or so we once believed.

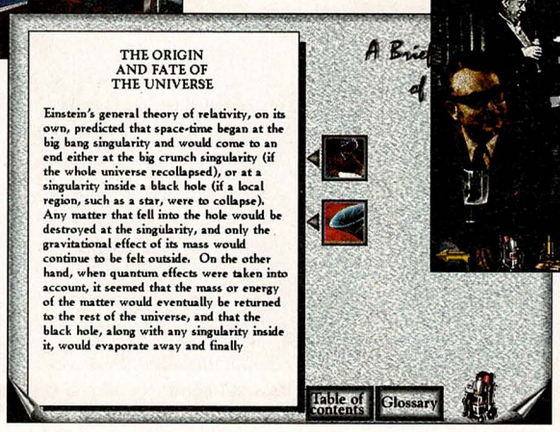
Reading the entire text at once can totally overwhelm you, whereas dividing it into bite-size chunks makes each part easier to swallow. And the animation, which is full of surprising images, crystallises abstract concepts in your mind in a most effective way.

Docked to the side of the room is the Hawking Craft. It's an imaginary spaceship that floats through cosmic mists, the silent animation hinting at the grandeur of forever. Again, you'll find yourself breaking away from your travels to hear the ideas of noted physicists or see clips from the *Brief History* movie.

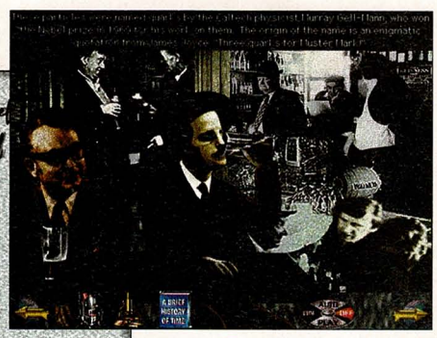
A Brief History of Time is a quirky, contrary production. Its presentation cajoles you into seeing things its way – your perception of whether it's well-designed depends upon your readiness to push at your boundaries. Let yourself go and you'll be fine – and remember there's no such thing as a straight line. **RICHARD HILL**



From this room, you can access the entire text of the book, see animated clips and travel through space.


THE ORIGIN AND FATE OF THE UNIVERSE
Einstein's general theory of relativity, on its own, predicted that space-time began at the big bang singularity and would come to an end either at the big crunch singularity (if the whole universe recollapsed), or at a singularity inside a black hole (if a local region, such as a star, were to collapse). Any matter that fell into the hole would be destroyed at the singularity, and only the gravitational effect of its mass would continue to be felt outside. On the other hand, when quantum effects were taken into account, it seemed that the mass or energy of the matter would eventually be returned to the rest of the universe, and that the black hole, along with any singularity inside it, would evaporate away and finally
Table of contents
Glossary

The pages of text provide many points to leap off and explore the CD-ROM – but don't expect to come back.



The animation is packed with surprising, unconventional images and approaches – James Burke meets *Monty Python.*

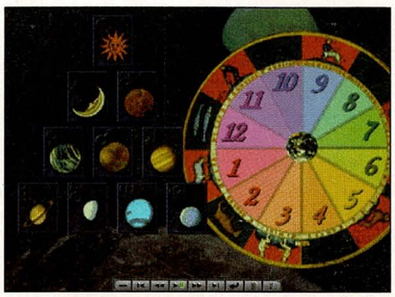
A BRIEF HISTORY OF TIME

Price: £58.69. Out: now.
Requires: LCII or better, System 7, 8Mb of RAM, a 256-colour 13-inch monitor and a double-speed CD-ROM drive.
For more details contact W H Freeman on 01865 726975.

MACFORMAT RATING 76%

Time-Life Astrology

Venus may be rising in the seventh house, but exactly does that mean for you? Discover what the fates have in store and go stargazing with this personal astrology program.



But what does it all mean? As well as casting your personal horoscope, this CD explains the significance of the symbols and their positioning in video form.

People are sceptical about astrology. 'Load of hippie rubbish,' they'll tell you, 'I don't believe a word of it.' Ah, but just ask them what sign they are – or get them to deny they've ever read a daily horoscope. Whether you believe in it or not, astrology fascinates us all, revealing our obsession with ourselves.

To its devotees, astrology is as much science as magic, with the stars forming patterns that can be decoded to reveal surprising secrets. If the patterns are consistent, there's no reason why a computer can't understand them. This is the aim of *Time-Life Astrology*.

An introductory video sequence takes you through the history of horoscopes, and the significance of the zodiac signs and the planets to astrologers. The heart of the program, though, is its ability to create a horoscope – just for you!

You're offered a table to enter details like your date of birth and sex. You're also asked where you were born. If you don't recall the exact longitude and latitude, you can select a country and town from pull-down menus provided. With all this help, you can be precise enough about your birth place to get results out of the program.

With your personal details in place, you can choose between a general assessment of your character or today's horoscope. The screen shows your chart with the planetary symbols arranged as they were when you were born. Sincere voices float out of your Mac's speakers to interpret the positioning of the symbols.

Each sign on the chart and its position represent a facet of your character. This is no mere quick look around your head – an assessment can take ten minutes or more. The spoken passages are simply pre-recorded messages pulled off the CD-ROM according to how they fit parts of your pattern – but this is consistent with how astrology can work. What the program lacks is a human perspective, the ability to make sense of the way the pieces fall. *Astrology* simply presents the pieces – you can be passive and withdrawn at one moment and be living a life of abandon the next.

You can have a permanent copy of any chart with an excellent printed version. But MACFORMAT's Performa 630 crashed consistently after printing, prompting lots of annoying program restarting.

Entirely unscientific tests performed at random in the MACFORMAT office found that the assessments and daily horoscopes tended to miss the mark as widely as the earth misses the sun.

The part of *Astrology* that will suck you in compulsively is the deeply dippy Compatibility section. Here you can compare two people and discover whether they were made for each other. Enter your current partner's details to see if it's going to work out between you. Type in the birth date of your ex and discover why it was such a disaster. Or see how things might have turned out with Marilyn Monroe, or other famous people whose birth details are stored by the program. The same unscientific tests revealed this section was enthralling – a mixture of soul-piercing insight and hideously flowery prose.

The development of astrology through the ages, from its origins in the East, is charted in a video presentation.

You and your partner might find: 'You are more than friends, the mountain melts the setting moon, the ocean quenches the sun'. Or perhaps: 'She brings out the playmate in you, and you may want to go off and while away your days in the sandbox of togetherness.'

Time-Life Astrology lacks the overall coherence to display any genuine insight, but its daft knack of making you think *it might just be right* is utterly compelling and entertaining.

RICHARD HILL

TIME-LIFE ASTROLOGY

Price: £25.00. Out: now
Requires: any Mac with System 7.0.1 or later, 4Mb of RAM, a 256-colour screen and CD-ROM drive.
For more details contact Softline on 0181 401 1234.

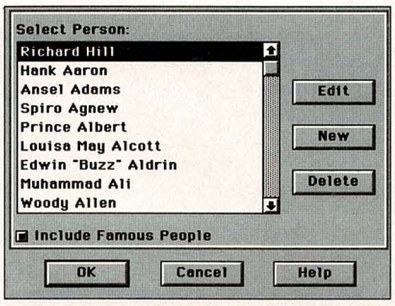
MACFORMAT RATING 74%

TIME OF YOUR LIFE

Time-Life is best-known for its current affairs magazines, but has released a whole series of well-respected astrology books as well.

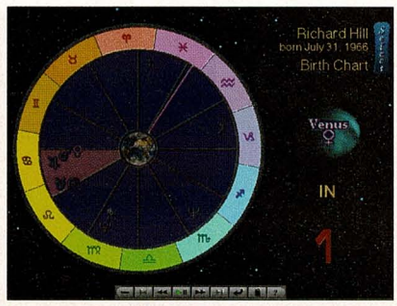
SECOND OPINION

Richard doesn't know we're doing this, but the rest of the MACFORMAT team would just like to say that this program is spot on. For centuries astrologers have claimed that the conjunctions, oppositions etc of the planets have consistent significances. So there's no reason a Mac can't be programmed with those, plus planetary charts, and just put the two together. What it can't do, of course, is use its intuition to resolve any apparent contradictions, as a live astrologer might. But then, everybody we know is full of contradictions anyway. Richard is just playing the sceptic here. Typical Leo.



You can view the charts of friends or famous people – most of Richard's friends are famous, anyway.

Tap the knowledge that has guided many star-crossed lovers, with the help of your personal astrologer.

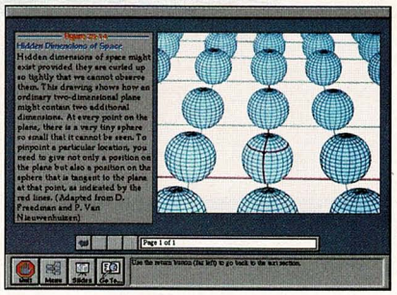


The program uses the position of the planets on your birth date to uncover insights about your character.

Continued on next page

Universe 4.0

A painstaking introduction to the science of astronomy, *Universe* is a mammoth, serious study aid. Can its CD-ROM format shed new light on the stars?


Hidden Dimensions of Space
Hidden dimensions of space might exist provided they are curled up so tightly that we cannot observe them. This drawing shows how an ordinary two-dimensional plane might contain two additional dimensions. At every point on the plane, there is a very tiny sphere so small that it cannot be seen. To pinpoint a particular location, you need to give not only a position on the plane but also a position on the sphere that is tangent to the plane at that point, as indicated by the red lines. (Adapted from D. Freedman and P. Van Nieuwenhuizen)
Page 1 of 1

Hundreds of illustrations, photos and diagrams show the theories of astronomy in practice. Education is clearly the main market for *Universe*.

Astronomy is a complex science that requires a good deal of knowledge to get the most out of it. *Universe*, published by the well-known magazine *Scientific American*, aims to assemble the ideas, facts and figures into a form that you can come to understand on a sophisticated level, through time and careful study.

Universe includes some impressive video footage and superb animation – trapped in itty-bitty windows.

Universe is essentially a CD-ROM that's designed to be as much like a book as it can be. You can read pages of text, flicking between them with two directional arrow controls. A slider knob enables you to browse very quickly through the text. Use of the CD-ROM is restricted to the obvious, but works perfectly well – clicking on a word in bold type calls up its definition from a glossary, while a handy Find facility contains a thorough index and chapter guide.

The text is dry but clear – a necessary function of dealing with so many mathematical theories. Essays by noted scientists are sprinkled intelligently throughout the chapters to add personality, revealing the motivation behind those who deal with these facts and figures for a living.

Illustrations are kept to one side rather than being placed within the text pages – included among them are sub-sections (called tables) that are devoted to a particular aspect of the science. The illustrations can also be browsed with the help of slider controls, but the two elements are linked sensibly with diagram numbers in bold. Clicking on the bold type brings up the appropriate illustration or photo.

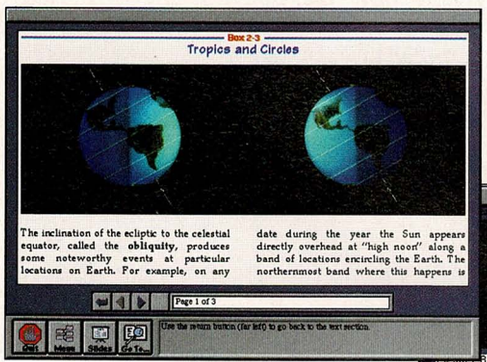
'You can't help feeling that more could have been made of the strong material that's on offer.'

There is also a limited number of animation and video clips, which are of such excellent quality they leave you wishing the programmers had given you an option to see them in a bigger size. With the slide show facility, you can set up a sequence of illustrations to display, selecting the photos and captions of your choice from any that are on the CD-ROM. The function is designed for anyone who's using *Universe* to teach – you can create a number of different lists for different lectures and keep each of them.

Education is clearly the main market for *Universe*. With this in mind, questions on the text are set at the end of each chapter. Elementary questions for younger students deal directly with the content of the chapter and add general knowledge tests, while more advanced questions require further study of books recommended in the bibliographies. Answers to many of the questions are on tap by clicking on a bold type link, and could have been made less accessible to make you work for them – perhaps by having to enter the answers into a form for the program to mark. Learning is also assisted with a concise summary of the main points of each chapter.

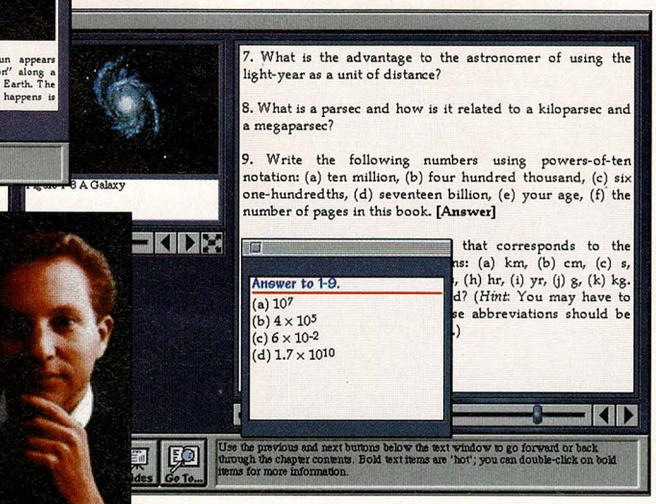
All this is fine as far as it goes, but you can't help feeling that more could have been made of the strong material that's on offer here. With a CD-ROM like Dorling Kindersley's *The Way Things Work*, for example, you can interact with the material, controlling its actions and seeing what happens. You learn by doing – something that a book or book-like CD-ROM cannot match.

Universe is a well-written book that makes an excellent resource for serious students of astronomy, and is accessible enough for those with a more casual interest – but it hardly represents the best that CD-ROM has to offer. **RICHARD HILL**


Box 2-3
Tropics and Circles
The inclination of the ecliptic to the celestial equator, called the obliquity, produces some noteworthy events at particular locations on Earth. For example, on any date during the year the Sun appears directly overhead at "high noon" along a band of locations encircling the Earth. The northernmost band where this happens is
Page 1 of 3
Use the return button (far left) to go back to the text section.
Quit
Menu
Slides
Go To...

Tables look deeper into a particular subject – here the relationship between the earth and the sun is explained.

Short essays show the human faces behind the hard science – a welcome change when the studying gets tough.


7. What is the advantage to the astronomer of using the light-year as a unit of distance?
8. What is a parsec and how is it related to a kiloparsec and a megaparsec?
9. Write the following numbers using powers-of-ten notation: (a) ten million, (b) four hundred thousand, (c) six one-hundredths, (d) seventeen billion, (e) your age, (f) the number of pages in this book. [Answer]
Answer to 1-9.
(a) 10^7
(b) 4×10^5
(c) 6×10^{-2}
(d) 1.7×10^{10}
Use the previous and next buttons below the text window to go forward or back through the chapter contents. Bold text items are 'hot'; you can double-click on bold items for more information.
Go To...

After each chapter, you'll be tested on what you've learnt – but many answers are easily available, so no peeking!

UNIVERSE

Price: £46.94.Out: now.
Requires: LCII or better with System 7, 4Mb of RAM, a 256-colour 13-inch monitor and a CD-ROM drive (double-speed recommended).
For more details contact W H Freeman on 01865 726975.

MACFORMAT RATING 69%

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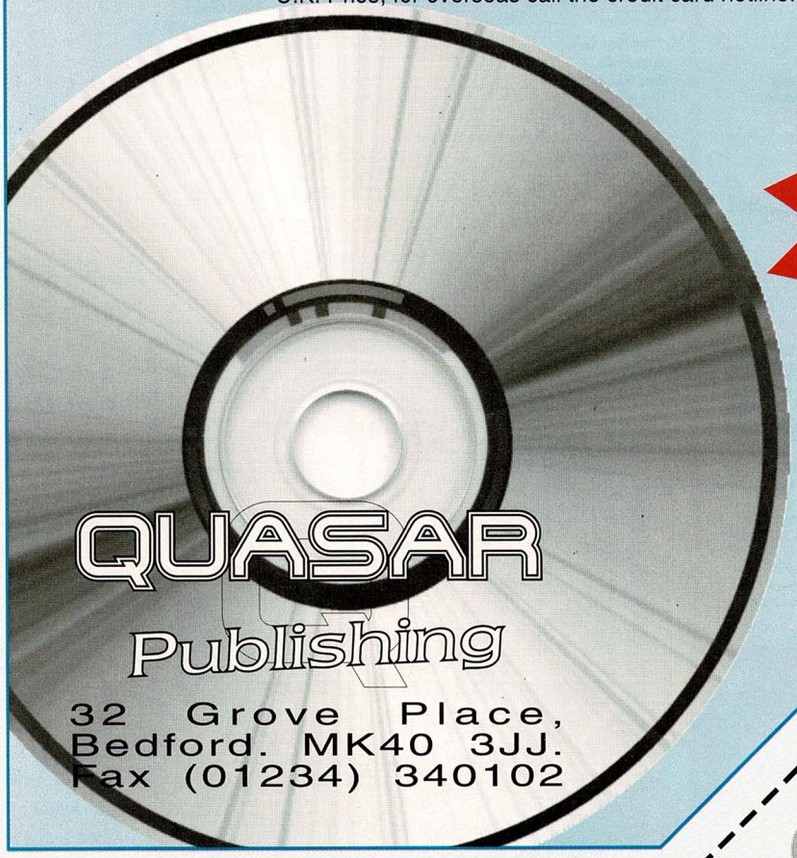

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Complete Maus

Artist/writer Art Spiegelman won the Pulitzer prize for this gripping graphic novel about his parents' survival of the Holocaust, a parable in which the Nazis are cats and the Jews mice. Each page is linked to historical documents, maps or photographs.

2

£37.95 £44.59

Star Trek: Next Generation Interactive Technical Manual

Investigate the 24th Century's crowning technological achievement, the Starship Enterprise NCC-1701-D. Travel the corridors, command the bridge, handle the controls and explore every facet of the holodeck and engineering. You'll go where only crew members have gone before. Welcome aboard.

3

£32.95 £38.72

Xplora

Peter Gabriel's interactive journey into his music and interest in human rights. It includes the video STEAM and comes with the book written by Peter, together with a series of articles from THE BOX, his multimedia magazine.

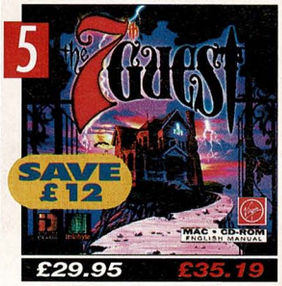
4

£24.95 £29.32

Stargate

With this CD-Rom you will have unprecedented access to the people and processes involved in the creation of a spectacular epic adventure with extraordinary special effects. Features over 1 hour of interviews with key production specialists including the director, writers and producers.

5

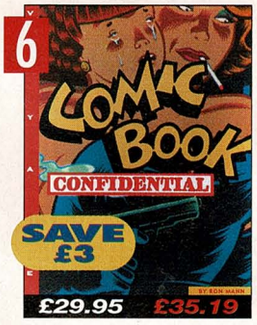


£29.95 £35.19

7th Guest

The first interactive drama in a terrifying virtual reality environment complete with live actors, 22 rooms to explore in a 3D haunted mansion. Beware, there are ghastly surprises lurking in every shadow.

6



£29.95 £35.19

Comic Book Confidential

Ron Mann's 1988 feature film has the full inside story on comics, featuring 22 influential artists and writers, from Mad to Marvel and more. Find out about Spiderman, Tales from the Crypt and many others straight from their creators.

7

£17.95 £21.09

The Mask

Now see how the smash hit movie, The Mask, all began. The original comic book series springs to life in this interactive CD-ROM adventure produced by Academy Award Winning Metro Light Studios.

8

£24.95 £29.31

P.A.W.S.

This captivating animated programme gives an inspired twist to the phrase 'It's a dog's life'. Operating from 'inside' a simulated cartoon canine, dog lovers of any age can navigate around the backyard and experience life from a dog's point of view. Bury bones. Dig up bones. Growl. Bark etc.

9

£29.95 £35.19

The New Dictionary of the Living World

An invaluable addition to any reference collection. This complete multimedia guide to the world around us features 3D animations, photographs, full-motion video, diagrams and distribution maps combine to bring the facts to life on your computer.

10

£52.95 £62.22

The Way Things Work

David Macaulay's best-selling book has sold over 2.5 million copies worldwide and created a cult. More than 1,000 illustrations, 300 animations and myriad sound effects explain how over 150 inventions work – from light bulbs to lasers.

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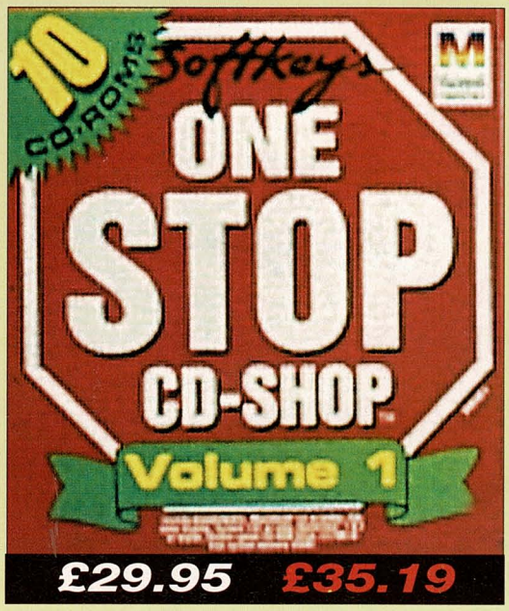

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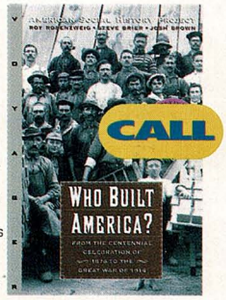
Culled from eighty hours of interveiws and a warehouse of NASA films, this seventy nine minute film tells the story of the first 'extraterrestrial humans'. It is a composite portrait from blastoff to splashdown of the Apollo mission control, and speaks eloquently about the "beautifully, brilliantly Illuminated blue marble that we call the Earth."

This Is Spinal Tap

The mock rockumentary about a heavy metal band on the verge of spontaneous combustion which became a cult hit when it was released in 1984. With this two CD-Rom set, Voyager ushers one of England's loudest bands into the digital age – and yes, the volume goes to eleven.

Who Built America?

This electronic book commentates on the social and economic history of the period in America, between the centennial celebration of 1876 and World War 1. The text, pictures and accounts concentrate on the work and the workers that transformed American society and the underlying tensions caused by such great change. Who Built America? is unusual in that it looks at the period 1876-1914 from a Socialist standpoint.



Bitfolio

Bitfolio Edition 6 CD includes all 1200 images from Edition 5 plus a further 800 images from new titles: cartoons, business, food & drink and backgrounds and borders. In total, Bitfolio 6 CD has over 2,000 full colour images stored as different file formats all on one compact disk.

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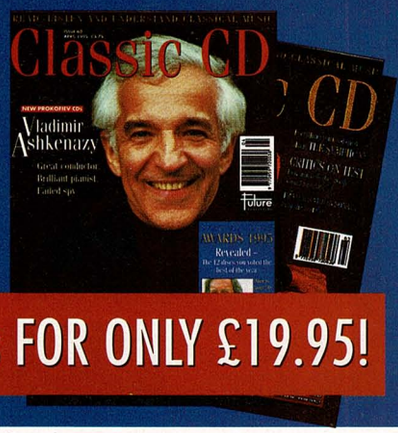

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3D Dinosaur Adventure

Using the 3D glasses to view dinosaurs is the most fun to be had here – you can zoom in real close to examine the creatures.

They bit the dust... oh, a few million years ago, but dinosaurs still hold an irrestible allure – for children in particular. This CD-ROM strives to make the subject even more captivating.

Surely, I thought, the popularity of dinosaurs would wane once Spielberg's movie had finished doing the rounds? Well, that's what I thought, but his blockbuster seems to have just scratched the surface of a fascination that'll be with us a for some years yet. *3D Dinosaur Adventure* takes the theme park analogy of Jurassic Park and makes it about as interactive as you can get. It really is a great package and definitely the best of the kids' multimedia titles this month.

Perhaps the best are the sections which rely on you wearing the 3D glasses that are included. Here you can use your mouse to zoom in close to the dinosaurs and roam freely among them, taking in whatever view you choose. The 3D effect works well; as long as you're between three and five feet away from the monitor, you get a pronounced 3D effect with the image hovering in mid-air. You can also choose to display these images full screen for added realism.

Also of note are the landscapes comprising the Jurassic Jungle, Triassic Tour and Cretaceous Corner. Here you're able to steer your way around beautifully rendered environs and view the creatures. If you choose to run *3D Dinosaur Adventure* from your hard disk, this is smoothly animated and provides hours of exploration. Learning how to control the mouse is the only difficulty arising with this package, since you're able not only to navigate left and right and zoom in and out, but also to move up and down. The software is smart enough to enable you to combine all these movements at once, but mastering your 3D flybys takes a bit of practice.

MACFORMAT Classic

But there's more to it than meandering around a virtual theme park: there's a fully-fledged Dino-pedia with loads of details about all the different kinds of dinosaurs and the periods in which they lived; and you can apply a number of search criteria to glean additional facts in any combination you wish, basing your searches on Earth, Early Life, Neighbours, Herbivores, Carnivores, Family/Lifestyle, and Paleontology categories.

There's also a great selection of full-motion video clips which look like they're straight out of *Jurassic Park*, the movie, but are in fact high quality animations linked together to form QuickTime clips – these are absolutely first class with digitised sounds for extra atmosphere. Add a dinosaur construction area in which you can design and build your own creatures, rendering them with different coloured and textured skins, and you have just about all you could want from an educational package about dinosaurs. There's even a couple of games included – one's a search and find mission through the landscapes of the Jurassic Jungle, the other's a naming game where you have to identify creatures from their component parts. Finally, there's a 'storybook' where kids can follow the text as it's read to them.

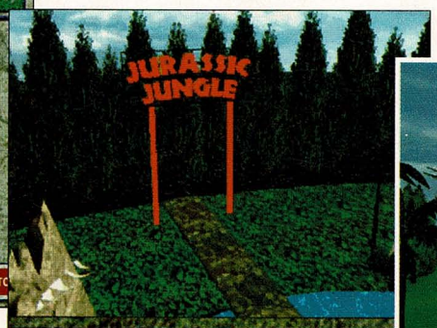
This CD-ROM title has been very well thought out and is technically extremely accomplished. What's more, the accompanying documentation is first class and goes beyond a mere description of the product and into theories of how best to impart information to your children in a lasting way.

ANDY STORER

LIFE IMITATES ART

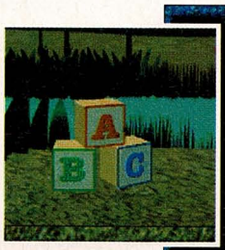
A batch of dinosaurs' eggs recently found in Mongolia are currently being analysed by US scientists who are, yes you guessed it, attempting to extract DNA...

1 From the opening screen you can click to enter the safari park and roam about at will, or alternatively choose from one of the icons at the top to go directly to a particular location.

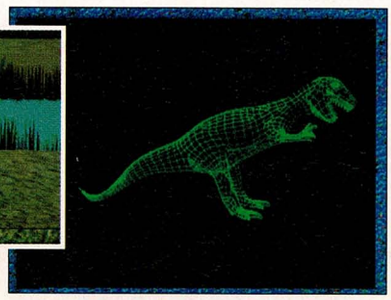


2 Entering the adventure park calls up a 3D flyby sequence which you control with your mouse to glide around the entrances to its inner delights.

3 In the Jurassic Jungle you're able to wander around the various dinosaurs on offer in the beautifully rendered landscapes.



4 Taking the Triassic Tour leads you to the dinosaurs typifying that particular period and, curiously, a pile of building blocks which represent the Name-a-Saurus game.



5 The best way to navigate *3D Dinosaur Adventure* is to click on the icons in the opening screen – to pass directly to an area of interest. Here we're about to create our own dinosaur.

3D DINOSAUR ADVENTURE

Price: £44.94 + £5.00 p&p.
Requires: a Mac capable of displaying 256 colours, a 12-inch or larger colour monitor, a CD-ROM drive and System 7 or later.
For more details contact Guildsoft on 01752 895100.

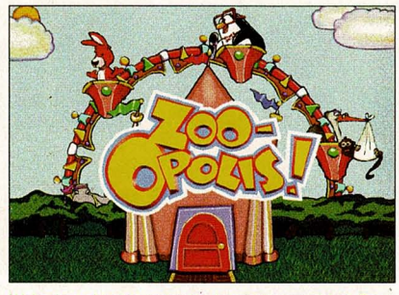
MACFORMAT RATING 90%

ZOO LIFE

In the US there are strict laws regarding animals in captivity, with the result that all animals kept in zoos were actually born in zoos.

Zoo-Opolis!

With many animals facing extinction, what better than a virtual zoo which humorously educates your child about various species and doesn't mention the environment once?



We're just about to enter the interactive world of *Zoo-Opolis!* – a software safari through the world's wackier animals (with some serious bits thrown in).

MOTHERLY LOVE

Gorillas don't make the best mothers. After four hours or so of looking after their offspring, they've had enough. Other females then step in instead and take over the duties for another four hour shift.

Crammed with creatures from a virtual zoo, which kids can explore just by clicking away on a mouse, this CD-ROM must be worth checking out. You start by choosing from the main menu any one of nine paths to begin your stroll through *Zoo-Opolis!*. Each path takes you to entertaining and informative games, puzzles, jokes, video tours and adventures full of animations and hidden 'hot spots'. Along the way you come across concealed tokens which you can eventually use to power up a wild and wacky bubble machine.

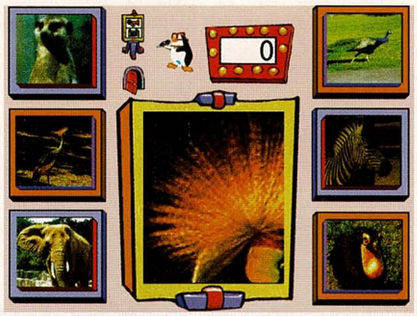
The paths each have guides to help you explore their features. Gilda Gorgeous, a rather cute giraffe, takes you on an interactive tour of a real zoo, where you're able to view video clips of real zookeepers who tell you about reptiles, bears, birds and big cats and how they're looked after in a zoo. If you fancy entering a gameshow, then a penguin called Splash is your host – he asks you to correctly identify extreme close-ups of animals and birds from a range of photographs. Then there's a toy train journey around *Zoo-Opolis!* which, depending on the route you take, results in a musical video montage of all the animals you've encountered singing their way through the proceedings.

We're all going to the zoo

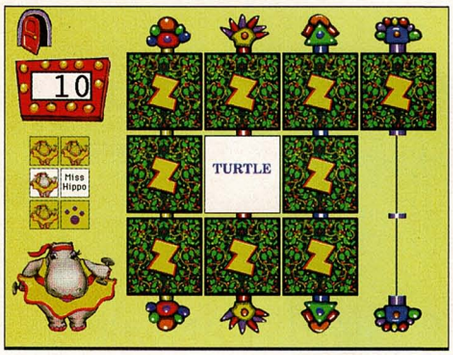
So what we have here is an entertaining mish mash of educational material, combined with genuinely funny excursions through a zoo with nutty guides for company. Shuffle puzzles, jigsaw puzzles and silhouette games abound. And with alphabet learning and videos of baby animals, there's much to commend *Zoo-Opolis!* to pre-school kids in particular. At least, when I showed it to my three year old she got to grips with it fairly easily – better than she does with *Photoshop* at any rate. There's loads of non-interactive material to hold a young child's attention, such as clips of bears re-edited to recite speeches from Shakespeare – and they certainly won't be bored with *Zoo-Opolis!* after only one playing.

If *Zoo-Opolis!* has a down-side, it's one which pervades all these kids' multimedia titles: they're American. And as such you get entertainment dressed up with all the sickly schmaltz and high-fives hyperbole that makes us downbeat British reach for the nearest bucket. Yes, it's unbelievably, horribly cute. Okay, so *Zoo-Opolis!* seems to be pitched at three to six year olds, but that doesn't mean it has to be so horribly twee that an adult wouldn't want to spend more than five seconds looking over their child's shoulder. But until educationalists in this country start to publish competing titles we'll have to put up with American accents – dancing hippos with American accents at that. **ANDY STORER**

Once inside you can see for yourself that the range of animals on show is, to say the least, a little wild!

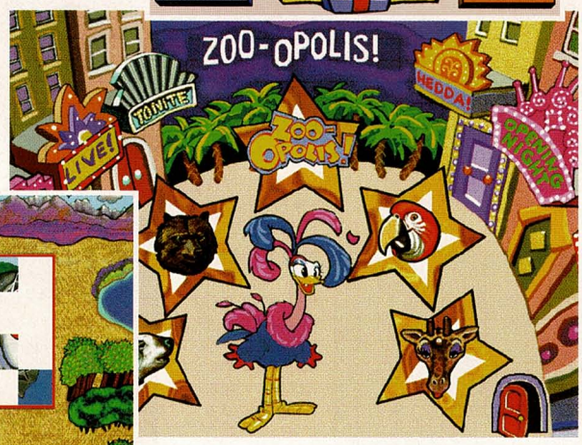


Choosing the penguin as your guide brings you to this screen area where you have to identify various animals and birds from close-up photographs.

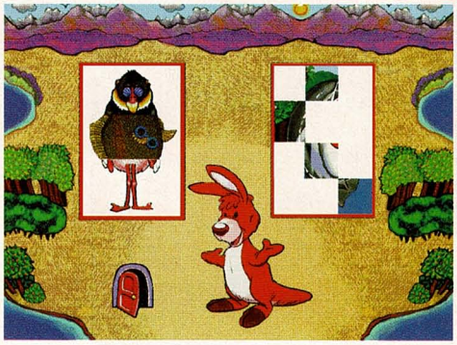


Each animal in *Zoo-Opolis!* leads you to a different game or puzzle – here we're playing a game of matching up squares with the divine Miss Hippo.

The Panda (seated comfortably above) takes you to one of the best sections – a pleasant little safari stroll through the jungle looking for various animals.



The ostrich, believe it or not, comperes a TV show where clips of bears and the like can be viewed on video performing scenes from Shakespeare – I kid you not! A case of the Two Grizzlies of Verona?



Clicking on Wally Wallaby takes you through to a puzzle zone where you have to try and match up pieces of an animal to spell its correct name.

ZOO-OPOLIS!

Price: £39.99.
Requires: a Mac LCIII or better, 4Mb of RAM or more, a double speed CD drive and System 7 or later.
For more details contact Active on 0181 838 1280.

MACFORMAT RATING 85%

The Ultimate Haunted House

If you're faint of heart, here's an ideal opportunity to explore a haunted house from the safety of your own Mac – and it's a far cry from pop-up books...

Courtesy of Microsoft's Home Division comes this little horror – a veritable onslaught of all things ghoulish wrapped up in one cartoonish package and replete with every scary sound effect you've ever heard. The emphasis is firmly on fun throughout, with the atmosphere more evocative of the 'Monster Mash' than some 'slash and schlock' outing.

Your journey begins with your entrance into the foyer of the haunted house, from where you can begin exploring its dubious delights. Your quest is to find 13 keys to escape from the house before the clock in the foyer strikes 13. There are (surprise, surprise) 13 rooms to explore and along the way you get to meet a motley collection of weird characters who will either help or hinder you in your quest. If you successfully find the keys you can unlock the program's built-in screen-savers and extra cartoons.

So the task is to find the keys and you have to move along pretty sharply, but along the way there's a whole host of distractions – like TV sets where you can watch clips from old horror movies, dancing cockroaches in the bathroom, or a kitchen where you can cook up a disgusting assortment of ingredients. As you progress against the clock you add various belongings to your carpet bag, which will in due course help you get through some of the trickier puzzles.

There's a ghost in my house

Just about everything on screen is clickable and throughout the proceedings you're treated to an assortment of sound effects and backing tracks. You use the items in your bag to make exchanges with the characters you meet for keys to the rooms which hide the other keys you're after. So this is a graphic adventure with bags of atmosphere that should appeal to any kid with a sense of humour.

But after your first race against the clock you'll probably take more time out to try out the various sub-games on offer. From little painting programs and slot machines to film projectors and organs you can play with – no, not human organs, I'm afraid. You can even construct your own monster in a Frankensteinian laboratory or read a few books on anatomy.

So is this horror yarn a yawn? It's pitched at five to ten year olds and as such should keep them happy for a few hours. But although it is pervaded by the same kind of black humour you find in TV series like *The Munsters* and *The Addams Family*, I doubt whether it has any serious lasting appeal. This is a shame, as it's been well put together and employs some nifty graphics tricks to catch you out now and again. It's just that, well, there are only 13 rooms – 666 would be more like it, but then you'd probably never see your kids again. Although I'm sure there are times when that might not be such a bad thing...

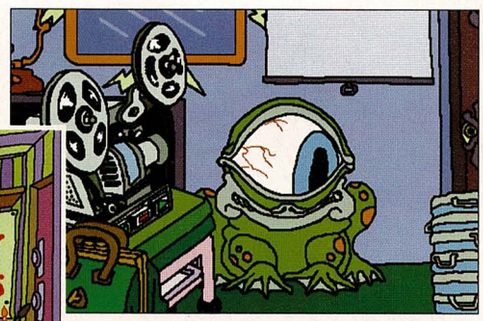
ANDY STORER

Nipping through the back of a bookcase you come across this poor lost soul – bearing more than a passing resemblance to MACFORMAT's own art editor.

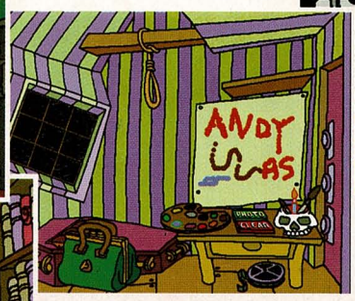
SPOOKY

Close examination of *The Ultimate Haunted House* CD disc reveals its part number to be 61661. An Omenous detail if ever there was one.

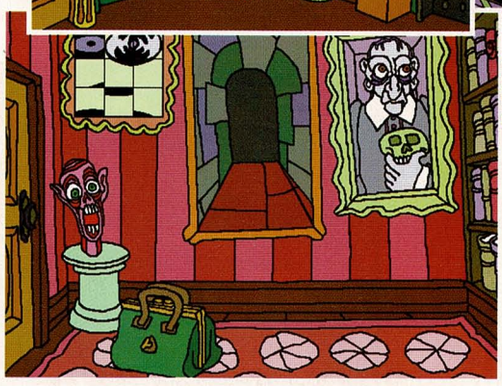
The lobby of the *Ultimate Haunted House* looks much like any other haunted house – except for that dungeon door lurking on the right.



Double-clicking on the pile of film canisters on the right brings a film projector into the room with which you can view a series of horror clips.



Opening a door leading off this bedroom takes you to an artist's garret where you can paint a few pictures and then hang them.



Back in another upstairs room are puzzles to solve and bizarre little pals to help you on your way.

THE ULTIMATE HAUNTED HOUSE

Price: £49.49.
Requires: a Mac LCIII or better, System 7 or later, a 256 colour monitor, 5Mb free RAM and a double speed CD drive.
For more details contact Microsoft on 0345 002000.

MACFORMAT RATING 79%

RUGRATS INC

And you thought Microsoft were a bunch of stuffy besuited types? Well you'd better think again – the people responsible for overseeing software releases like *The Ultimate Haunted House* are called the Microsoft Rugrats Team.

Dazzeloids

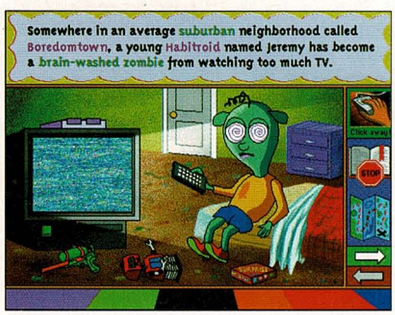
Enter into a cartoon world on a quest to save the world from a slow death by television. Paradoxical perhaps, but it's a wacky idea for a very wacky game!

From the pen of the same cartoonist as Rodney's Wonder Window, Rodney Alan Greenblat, comes this bizarre extravaganza set in Compli City. Your mission? To save the citizens from mind-numbing boredom. How do you achieve it? By hanging out with the Dazzeloids – a right bunch of weirdos.

Get this for a cast of characters: Stinkabad Lame, a daredevil, prankster and slamdancer; Yendor Talbneerg, a technoid supreme; Titan Rose, muscleman and poet; and their commander Anne Dilly Whim out to avenge her sister's death through boredom in front of the telly. Together you're about to take on the Mediogre, a kind of animated Rupert Murdoch who's head of the mighty Blando Corporation and 'a power-mad capitalist worm', along with his 'techno-weasel sidekick, Pin Bleeper'. No, mind expanding drugs aren't included in this package, which is probably just as well because with software this warped you don't need them. Even tea would be too strong, so heaven knows what affect *Dazzeloids* might have on impressionable young minds.

BOOM BOOM!

Dazzeloids even extends its humour to its loading screen – which checks your system and 'fleeces your RAM sheep'. It also 'scrubs your System heap'. Yep, weird!


Somewhere in an average suburban neighborhood called Boredomtown, a young Habitroid named Jeremy has become a brain-washed zombie from watching too much TV.
Click away!
STOP

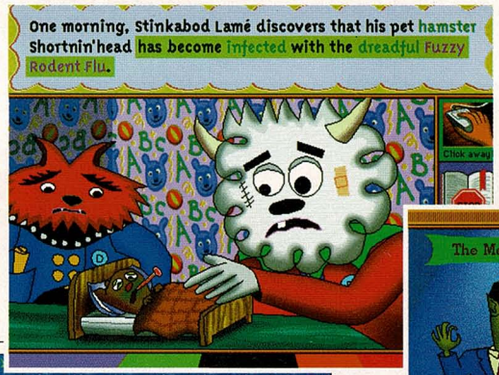
In 'A Child is Bored' you accompany the Dazzeloids on a mission to save a gerbil from 'brainwashed zombification' – get the picture? It's a weird one.

Brainwashed zombification

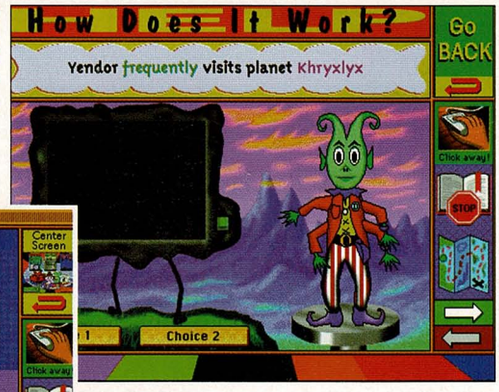
Perhaps I'm being unfair. Saving characters like Jeremy Gerbilman from 'brainwashed zombification' after too much Blando television should be treated as nothing more serious than fun. Or take the other mission you're challenged to accomplish – saving the 'smelly but lovable' Probe and Poke Petshop from the 'void of the Mediogre's Transglumifier'. Whatever happened to Hansel and Gretel? I'll tell you what happened to them: they grew up and moved to New York where this kind of warped madness is surely an everyday, normal fact of life.

Madness aside, *Dazzeloids* is, well, quite dazzling when it comes to brilliant animation, strange poems, catchy songs, crazy sound effects and narrated text. Together they add up to an on-screen world which will temporarily take over your Mac and entrance your poor unsuspecting child. Whether sheer absurdity is something you should encourage them to focus on is another question though. It's not as though the missions themselves have nothing to commend them – they have more than their fair share of surprise encounters and glorious graphics, even a great sense of atmosphere – but the accent here is very much on entertainment rather than any implicit educational value.

This is no bad thing of course, but as entertainment it is somewhat limited – although you can choose a different character each time to accompany you on your mission, there are a only a couple of main storylines and a couple of minor modules. This seems to me like an awful lot of money to spend on a very limited amount of entertainment. In short, *Dazzeloids* may quickly begin to offer the kind of mind-numbing boredom it proclaims it's out to defeat. **ANDY STORER**


One morning, Stinkabod Lamé discovers that his pet hamster Shortnin'head has become infected with the dreadful Fuzzy Rodent Flu.
Click away!

The wonderfully titled 'Banker, Spare that Petshop' pits you in the role of a crusader against 'The Void of the Mediogre's Transglumifier'.



If it all gets a little too weird you can always call up the help facility, which in this case is a six armed leprechaun – which is only to be expected, really.

You also get to meet some of your adversaries in this section too – like the wicked Mediogre. A nasty piece of work!

Clicking on one of the characters takes you to a music-video inspired insight into what makes them tick – clue: it's completely nuts.

DAZZELOIDS

Price: £34.99.
Requires: any colour Mac running System 7, 4Mb of free RAM and a double speed drive recommended.
For more details contact Softline on 0181 401 0058.

MACFORMAT RATING 74%

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music & the mac

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Discover India

The opening screen – now that's what I call a touch typist! But can she take shorthand?

Actionaid is the first UK charity to publish a CD-ROM solely for educational purposes. Phil Moore takes a long look, and learns about all aspects of life in India.

CD-ROMs aimed specifically at the education market are becoming commonplace, but Actionaid has just published a CD-ROM entitled *Discover India* – the first charity to release a CD-ROM aimed at the schools market. Designed for children aged 10-14, it is ideal for Geography and for some aspects of the current Science curriculum.

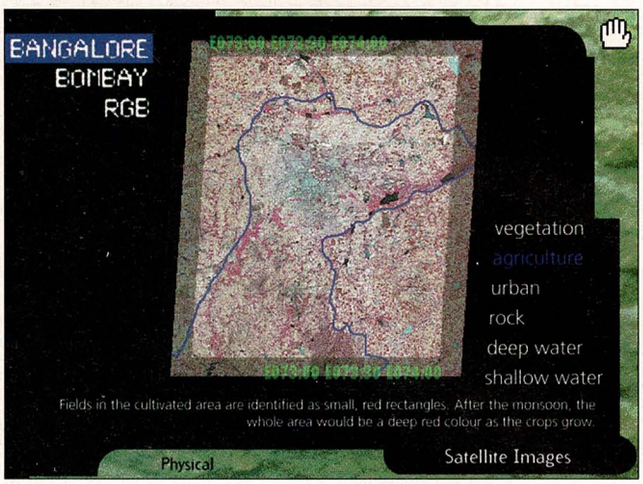
The CD-ROM is about life in India. Actionaid's Ben Hartshorn, who was responsible for the overall production, says that it is designed to 'bring the reality of life in India into the classroom and improve understanding of poverty, while bringing Geography to life for children and providing the teacher with useful resources.' It certainly achieves all of those aims and has a rich set of resources ranging from satellite images, QuickTime movies and still images, to sets of statistics, maps and diagrams.

Discover India for yourself, with the demo on this month's CD.

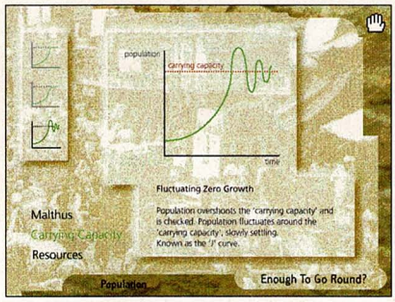
The resources are organised in six sections. The first one deals with aspects of cities and includes Sampangi's Story, about a boy's life in Bangalore. You can make some choices for him and see the consequences of your choices played out in QuickTime movies; you also learn how tough it is to eke out a living in India. This idea is taken further in the second section, dealing with the process of development. Here, you can explore a map of the village of Kanjikolly in Tamil Nadu, seeing what village life really is like before moving on to look at how six sample projects typify the approach to development taken by Actionaid.

The third and fourth sections cover physical geography and population. They include satellite images of Bangalore and Bombay which can be overlaid with explanations of what they show – agriculture, rivers and so on. The population section uses a range of diagrams and pictures to explore types of housing and their location in a city, to present theories about population in the light of India's experience.

The section on water includes a number of video clips and stills combined with a map of the village of Tuppadahalli, illus-

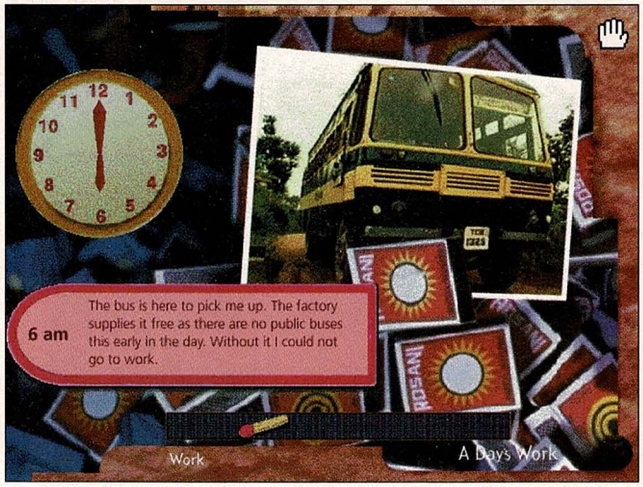


Discover India provides satellite images of Bombay and Bangalore, overlaid with useful information.

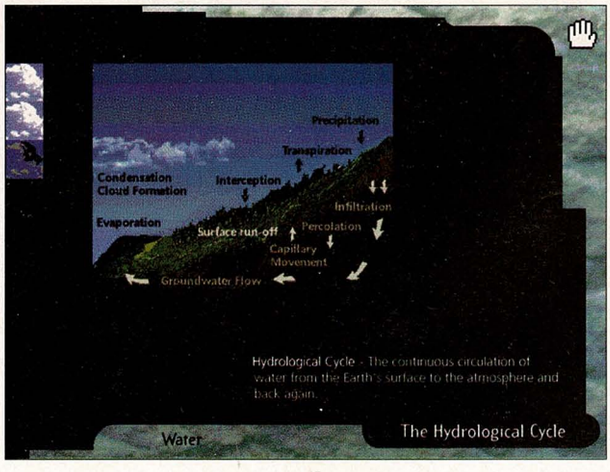


Discover India has many diagrams, covering all aspects of human and physical geography.

This is Sampangi's Story, where he gets ripped off. What decisions could you make to help him avoid this fate?


6 am
The bus is here to pick me up. The factory supplies it free as there are no public buses this early in the day. Without it I could not go to work.
Work
A Day's Work

This section illustrates how a 10 year-old girl gets to work at 6am, ready for a 13-hour day.



The section on water highlights just how important it is to the daily life of the village.

trating how the people went about deciding where to site taps when a new bore hole was sunk.

The final section illustrates one 10-year-old's day. She is one of the 70,000 children (95% of them girls) who work in match factories in Sivaski. On this day, she works from 7am until 6pm and earns the equivalent of 20p. You can follow her hour by hour, watching what she does and hearing what she says – it's a very instructive experience.

'Discover India' is designed to bring the reality of life in India into the classroom.

Ben Hartshorn says that the CD-ROM is designed to be used alongside other resources, and this is clear from the way the disc is organised: each section can be explored but is not directly connected to any other section. This means that it's possible to send a group of children to the Mac for a specific purpose knowing that achieving that purpose won't take longer than 10 to 15 minutes. At the same time, the disc could be placed in the Library for sustained browsing as part of more general research in the Geography curriculum.

In addition, all of the information contained on the disc (but not the pictures) is provided on photocopiable sheets. This means that children can use the disc to explore a particular issue, concentrating on understanding and thinking about what they are seeing, with the information being given on sheets when they've finished at the Mac. There are useful suggestions in the pack for other ways of using the CD-ROM, and for some classroom activities arising from its use.

This is a well-judged CD-ROM which will provide a valuable resource in any classroom where social issues are being raised, as well as in any Geography room. It will also serve as an object lesson to some commercial publishers who would do well to follow Actionaid's attention to teaching and learning issues in the design of their CD-ROMs. **MF**

DISCOVER INDIA

Price: £55. Out: now.
Requires: LCIII or better, System 7, 4Mb of free RAM and 256 colour monitor.
For more details contact Actionaid on 01460 62972.

FEATURES 84%
An open-ended and very adaptable resource.

EASE OF USE 89%
Very easy to access the information you require.

DOCUMENTATION 92%
Lots of good ideas and photocopiable.

EDUCATIONAL VALUE 91%
An excellent resource.

MACFORMAT RATING 88%

DID YOU KNOW?

In 1991 the estimated population of India was 844 million (that's 920 women to every 1,000 men), with a growth rate of 2.0% a year. There are 16 official languages, of which Hindi is the most widely spoken.

Thinkin' Things 2

Toony Loony and Oranga Banga play it for us one more time, with this rhythmical education-orientated CD-ROM.

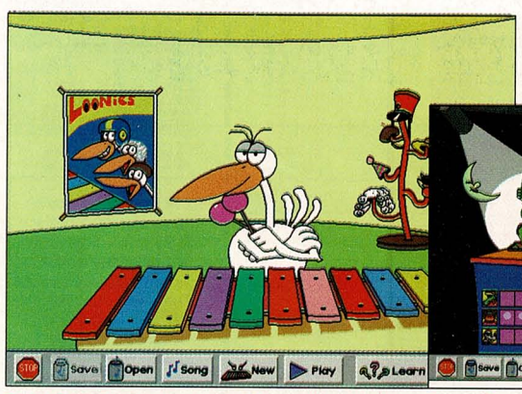
In MACFORMAT 15 we reviewed the original *Thinkin' Things*, an educational software package that we rated as high as 92%. *Thinkin' Things* is an excellent teaching tool, which provides kids with the opportunity to experiment with shapes and sound and to apply logic to the completion of patterns.

Play about with the demo of *Thinkin' Things 2* on this month's CD

This new collection is aimed at a slightly higher age group – 6 to 12 year-olds, but the basic ideas are the same. Oranga Banga still teaches you rhythm, but this time there is a rudimentary notation; the Fripples still get you to match things visually and aurally; Toony still teaches you tunes on a variety of weird instruments and you can still play with shapes and sounds, this time including 3D shapes.

The American origins of the package are also still very evident. Their approach of encouraging teachers and parents to have 'hidden' control over how the children can use the program still seems to be the norm; I would far rather let the children be in total control of what they do on a computer. The rather intriguingly titled 'Adult Section' includes a baffling control over whether children are allowed to save what they create in various sections of the program. I find this a rather bizarre method of managing hard disk space. At the same time, they have included the facility to operate the program through a single switch for children with special needs.

If you've got the original collection it seems a shame that there isn't an upgrade price, and you probably won't want to pay the full price for what is essentially the same thing. If you haven't got the original, this package could provide some fun for your children – but do let them have full control over the program! **MF**



This is Toony Loony. As you might have gathered he's a xylophone playing duck and thoroughly nice bloke.

Oranga Banga (centre) seems intent on inserting his drumsticks into the ears of a furry creature.

THINKIN' THINGS 2

Price: £19.95. Out: now.
Requires: System 6.0.7 or higher, 4Mb RAM (5Mb for System 7.5), 256 colour monitor.
For more details contact Iona Software on 0181 241 8925.

MACFORMAT RATING 82%

NEXT MONTH

We cast a critical eye over *Amazing Animation*, a brand new software package that enables children to create their own cartoons.

Selling fast

Missed an issue of MACFORMAT? Collection incomplete? Don't delay, order today!

ISSUE 9

February 1994

■ **On the disk:** *SimCity 2000 demo; Greg's Browser; Bobzilla* XTension*; QuarkXPress 3.2* patcher

■ **Inside:** Bumper games guide: *SimCity 2000, Populous, Myst* and more; *FreeHand 4* reviewed; tips for keeping your Mac safe; *Interactive Lover's Guide*; plus language tuition software

ISSUE 10

March 1994

■ **On the disk:** Over 30 indispensable True Type fonts; *Apollo* and *Disinfectant 3.3; ShutDownFade*

■ **Inside:** Integrated packages head-to-head; tips and tricks on graphics; *Creative Writer* review; *FA/18 Strike Hornet* review; Editing for DTP; plus Canon BJC-600 printer on test

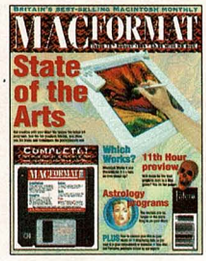
ISSUE 14

July 1994

■ **On the disks:** *Populous 2* demo; *HyperStudio; Disinfectant 3.5; Photina*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** Multimedia special – how to join the CD-ROM revolution; Natural Media techniques; reviews of *7th Guest* and *Flying Nightmares*



ISSUE 15

August 1994

■ **On the disk:** *GrayStation; Vistapro* demo; *Quill*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** art on the Mac, including reviews of *Dabbler, Fine Artist* – and the Wacom, CalComp and Summa-graphics tablets; reviews of *Vistapro* and *ClarisWorks 2.1*

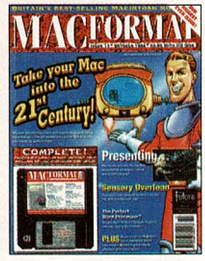
ISSUE 16

September 1994

■ **On the disk:** *ColorStation 2* and *HomePublisher* demos

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** our guide to weird Mac software; plus reviews of *Multimedia Workshop, HomePublisher* and *Return to Zork*; plus a foreign correspondent's Mac story



ISSUE 17

October 1994

■ **On the disk:** *Crunch 2.0* and *Conflict Catcher* demo

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** discover how to future-proof your Mac with our top add-ons; reviews of *Sensory Overload, Wrath of the Gods* and *WordPerfect 3*; plus *Ritz Payroll*

ISSUE 18

November 1994

■ **On the disks:** Internet software bundle; troubleshooting utilities

■ **On the CD-ROM:** *ClarisWorks 2.1; Rebel Assault* and *Sensory Overload* demos; 200Mb of utilities

■ **Inside:** How to beat those startup problems; plus *Norton Utilities 3* vs *MacTools 3;* plus review of *ThemePark*

ISSUE 19

December 1994

■ **On the disk:** Hot action with *Wolfenstein 3D*; *Kid Pix*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** The lowdown on accelerators; the 20 top Mac games; SCSI trouble-shooting; *IntelliTalk*; OCR user guide plus Internet books reviewed

ISSUE 20

January 1995

■ **On the disk:** Build worlds with *Fractal 1.2; Maniac 2.1.1; RAMDisk+ 3.23*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** Virtual reality special: *KPT Bryce* and *Star Trek Tech Manual*; *Word 6* versus *Nisus Writer;* how to write games for your Mac

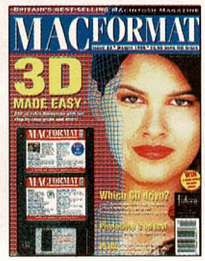
ISSUE 21

February 1995

■ **On the disks:** *VideoShop 2.0*; plus 3Mb of games and utilities; *Trojka; WordSmith*

■ **On the CD-ROM:** Demos of *Premiere 4.0, Marathon, Ghosts,* and *Star Trek: TNG, Technical Manual*

■ **Inside:** Video editing on Macs: how to do it; plus budget games; and what to buy if you run out of disk space



ISSUE 22

March 1995

■ **On the disks:** *Infini-D* demo; *MacConcept; Blobbo*

■ **On the CD-ROM:** 3D spectacular; *The Crystal Rainforest; VideoFusion*

■ **Inside:** How to create 3D images on your Mac; *Photoshop 3.0* reviewed; font problems solved; CD-ROM drives tested; and the most realistic flight sim ever

ISSUE 23

April 1995

■ **On the disk:** *Oh-no! More Lemmings; StuffIt Lite 3.5*

■ **On the CD-ROM:** Comics collection; *PAWS; Sources of Faith; Marathon*

■ **Inside:** Comics on the Mac – interviews, reviews and how-to's; *FreeHand* v *Illustrator*; colour printers; reviews of *XRes* and the best Mac game ever, *Marathon*

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ISSUE 24

May 1995

■ **On the disk:** *Graphic Converter; MacCheckers!*

■ **On the CD-ROM:** Demos of five top DTP programs, including *QuarkXPress* and *PageMaker*, plus *Photoshop 3.0* and *Claris Works 3.0*

■ **Inside:** Every Mac DTP package reviewed and rated; Colour scanners; networks explained; *PhotoFix* reviewed

SHAREWARE AND PD

Journey into the mysterious and dark world of Mac shareware from the Internet with your genial guide, Derek Smith.

This month I have enlisted the very able help of Nick Harper with the reviews. In particular, he was the only person we could find who still owned and loved a Spectrum and could test the emulator.

Meanwhile, I undertook the arduous task of reviewing some of the rather good games that had turned up on the Internet over the last month. It's a dirty job but someone has to go beep.

Holstein

FONT

Freeware

This month's font is a wonderful and slightly odd design from a chap called Ethan Dunham. Mind you, he sounds an odd person. The Read Me file states that it has nothing to do with cows, unlike the Read Me file itself, which contains a scan of a cow. It was probably my fondness of the bovine species that attracted my attention in the first place. Cows are a good thing. There should be more cows in shareware.

All the shareware featured here is on our covermounted CD-ROM

This is holstein font
abcdefghijklm
nopqrstuv
wxyz
1234567890
ABCDEFGHIJKL
MNOPQRSTUV
WXYZ

A similar effect to this *Holstein* font can be achieved with a fine nib fountain pen and several pints of an amber-coloured alcoholic beverage.

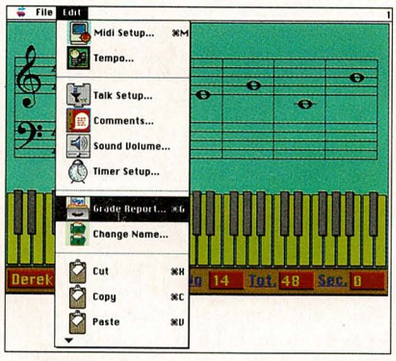
Melodic Ear Trainer v1.0

MUSIC LESSON

Shareware $20

Several people in the office have commented that I must be tone deaf to listen to Barry Manilow CDs all day, but this program proves them wrong. It's designed to teach you notes and pitch on your Mac. You start with a picture of a piano keyboard on screen, and then the program plays you a short series of notes. Click on the ivories in the correct order to repeat the tune, and you are rewarded with a very patronising digitised message.

The program is useful for anyone learning music, but its clear colourful style and simple pull-down menus are obviously aimed at children. I tried it for quite a while and began to get pretty darn good, but hey, that's no surprise because 'I write the songs that make the whole world sing...'



Sit your ears down in front of your Mac and teach them with *Melodic Ear Trainer*.

Jigsaw 1.5

PUZZLE GAME

Shareware $15

System 7 brought us a wonderful puzzle game where you had to slide pieces of a puzzle around to make a picture. System 7.5 was specifically developed to expand on this and introduced a fancy jigsaw puzzle.

Jigsaw is for those people who don't want to upgrade their System software. In fact, it's also for those who did upgrade, because it's better than Apple's attempt, having more options. Once you've loaded the program, you can open any PICT graphic and turn it into a jigsaw.

The unregistered version of *Jigsaw* has some features disabled (the last piece is missing), but it's good enough to make you want to pay up. Honest!

Once the picture is split into pieces, you can move them around with the mouse in an attempt to join them all back together. It doesn't quite give the atmosphere of a 1,500 piece jigsaw of an alpine scene, but it would probably keep the children amused for ten minutes. The only missing option that should be included in the next version is the ability to drop pieces under the sofa and then suck them up with the vacuum cleaner.

SmartSaver 3.0.1

BACKUP

Shareware $25

Backup and file synchronisation programs on the Mac are as common as clichés in a football commentary. It therefore takes a good one to stand out from the terraces and make itself heard, and *SmartSaver* is just such a program.

The principle is simple. In fact the whole program is a lot simpler to use than the horrendously intimidating man-

Continued on next page

ELECTRIC POET

The margin notes this month come from the very excellent shareware program *Electric poet*, which can be found on the cover disk.

CONFUSED ABOUT SHAREWARE?

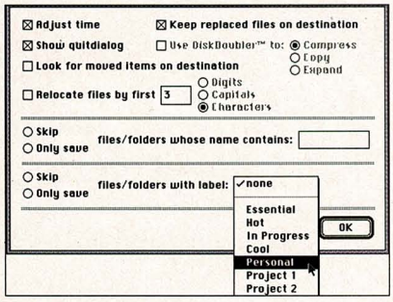
■ **Shareware** is a form of 'try before you buy' software selling and it's a great idea so long as you're honest. When you get some shareware, the documentation file accompanying it will tell you how much it costs – typically it's somewhere between US$5 and $40 – and where to send your money. If you like the software and decide to keep it, then you're morally obliged to cough up. Not only do you get the satisfaction of boasting to friends about how honest you are, but the author will often give you something in return for registering, like a printed manual, or updates when released. The most common problem is sending money abroad, but as many shareware authors now accept credit cards, it's getting easier.

■ **Freeware** means that you don't have to pay for it at all. There are many derivations such as postcardware, which means you have to send a pretty postcard to the author.

But freeware is not strictly the same as **Public Domain** (PD) because although you don't pay for freeware, the author keeps copyright and you have to follow his terms and conditions to use the program. This often means keeping all the files together and not using or selling them for profit.

ELECTRIC POET

Bellowed, 'There are no fish there!'
The voice came 'Boy #7'
What does a blonde call them?



Among *SmartSaver's* many features is the ability to automatically compress files using *DiskDoubler*. If you own it, that is.

ual suggests. Select the disk you want to back up and the destination you want to back up to. Tell the program how often to perform its duty and away it goes.

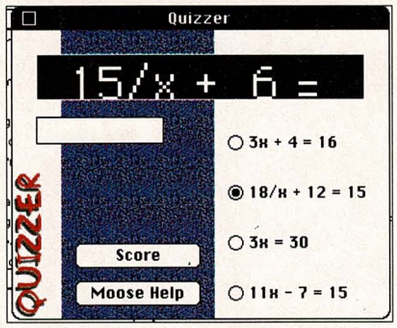
Of course, this is a rather extreme simplification. There are plenty of options and some clever ideas, such as the ability for the program to realise that a file has been moved rather than deleted and a new but very similar one created elsewhere. *SmartSaver* can be used on a desktop Mac for backup, or as a file synchronisation program for PowerBook owners. You might say that it's a program of two halves.

Algebra Quizzer 1.0

EDUCATION

Freeware

Remember those awful days in junior school maths class where you sat for hours staring at equations such as, 'If 3*x*+5=20, what is *x*?'. Well, *Algebra Quizzer* lets you relive the whole awful experience. Alternatively, it will prove your kids are better at maths than you.



If you don't have the required font for *Algebra Quizzer*, the equation is often too big to be completely seen.

The program covers addition, subtraction, division and multiplication, each sum being an equation with one unknown (that elusive *x*). If you get the answer right a *whoop* sound plays. Get it wrong and you get an uninspiring *dink*.

After a few goes you begin to wonder

ELECTRIC POET
What's the that, what's she found out of a blonde?
A brunette jumped off a brunette?
You do what you can?

It's about time...

The Mac's built-in clock may not be the most accurate timepiece in the world, but it has plenty of uses. Here are a handful of shareware programs that wouldn't be without it...

TimeClock

TIME LOGGER

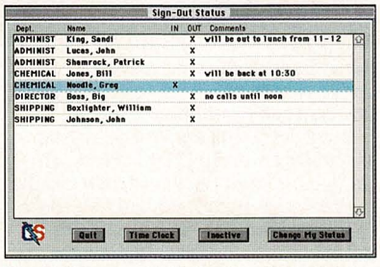
Shareware $19

I don't believe in conspiracies as a rule. I believe Lee Harvey Oswald was the lone gunman and Julius Caesar fell down the stairs. But even I cannot escape the conclusion that the Macintosh is out to get us all.

TimeClock is a clocking in and clocking out program designed to know where we are at any time of the day. In true Big Brother style it counts the hours that you have (or haven't) worked over the week and produces reports on you and your little indiscretions.

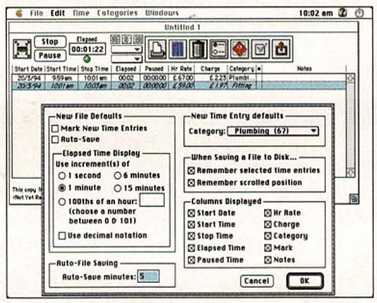
There are several layers of passwords, the highest (and most useful) of which enables you to alter the figures. To test this sneaky program we installed it in the MACFORMAT office for a month. The result was that I averaged 25 hours a day, and the editor was officially reprimanded for consistently turning up at 3 o'clock in the afternoon. Handy, that master password.

ELECTRIC POET
Tell her zebra?
She was pregnant.
Why don't blondes wear underwear?
Toes go in first.



TimeClock keeps track of who's in, who's out, but not who's shaking it all about. Pity, that!

ELECTRIC POET
I hope it's mine!
That's where you name all the back seat.
I can keep track of the pin and ask for the way down.



You won't have to charge customers in dollars – *TimeTracker* adjusts itself for the local currency from the mighty Deutschmark to the lowly pound.

TimeTracker

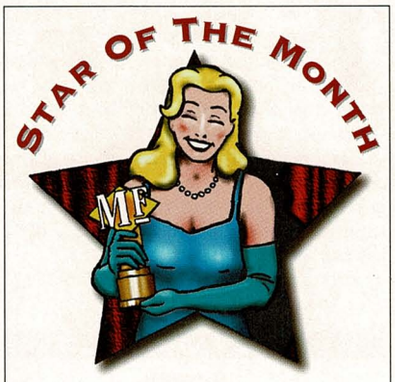
TIMER

Shareware $25

This is more like it, a time keeping program designed to make you money by keeping track of jobs charged by time. Once you have opened the program, your first task is to enter all the different types of jobs you do, and how much you charge per hour. You can select the unit of time you charge by, so instead of rounding to the nearest quarter hour, you can charge by the second if you like.

To start the clock ticking, you simply click on a button and select a type of job. Notes can be added to remind yourself what the job was for, and the program keeps a running total over however many sessions and days a job takes.

TimeTracker is an elegant and well designed program which will be very useful to a small number of people. I was unsure about the legality of putting this program on the CD, so I called our lawyer's office and was informed that there wasn't a problem, and that the telephone call had just cost me £196.23 exactly. Stupid program.



Apeiron

ARCADE GAME

Shareware $15

Aperion is the latest game from the Ambrosia stable, which is perhaps best known for the thoroughbred game *Maelstrom* (which was on the MACFORMAT 8 cover disk). In the same way that *Maelstrom* was a rip off... er, homage, to *Asteroids*, *Aperion* is a blatant copy of the classic *Centipede* arcade game. But, like *Maelstrom*, it brings the game up to date and adds a huge amount to it.

Gameplay involves a segmented centipede walking about the screen and slowly descending towards your weapon, which is restricted to the bottom quarter of the screen. Your main aim is to shoot the little centipede to pieces, but each time you destroy a segment, the remaining creature splits into two.

There are lots and lots of extras, bonuses and power-ups to keep the interest going, along with truly addictive gameplay. Where *Aperion* differs from almost all other shareware is the quality polished finish which makes it so smooth, you could spread it on a slice of toasted bread and call it butter. And as they say on the telly, 'I can't believe it's not *Aperion*.'

Getting a screen shot of Ambrosia's *Aperion* proved to be rather tricky, as most grabbing software wouldn't work. I used the excellent *Snapz*. I wonder who wrote that?

Sucker!!

EXTENSION

Postcardware

Pop this Extension into the System Folder of your victim, then when he next starts up his Mac it'll crash half way through booting up. Ha ha! Oh what fun you can have, you jolly prankster, you! Best of all, your victim is sure to join in the laughter and see the funny side. That or punch your lights out, so choose your victim carefully. To get around this hilarious joke, you just hold down the **[shift]** key at startup so no Extensions or Control Panels load.

If that isn't quite funny enough, then don't despair. The Read Me document contains instructions on how to open the Extension using *ResEdit*, copy the code, and then paste it into the victim's System *file*. This will cause the machine to crash as before, but holding down **[shift]** will no longer help! Oh dear, I think my sides are going to split.

There is a way around this by booting from a floppy disk. So why does the author not explore the unlimited humour of hacking all the System files on the victim's floppy disks as well? Now that's what I call good old-fashioned entertainment!

You'll notice that this program is postcardware. This means that if you want to use it you have to send a postcard to the author. Wouldn't it be really funny if someone sent him a letter bomb instead. Ha ha! He's sure to see the funny side of that.

why you didn't just stick to the textbook version. The game always starts with the same questions too, seeming to indicate that it's following a simple list rather than making up questions randomly as you play. Eventually this fails to test your maths skill, testing your memory instead.

The program's saving grace could have been the moose facility – a talking moose to help you through the sum – but this just caused a System error. Oh dear. Stick to the textbooks; frighteningly, they're more fun.

AutoLaser v1.0.1

PRINTING

Shareware $10

AutoLaser is an Extension designed for large networks with lots of laser printers connected to them. On startup, your Mac randomly connects to one of the lasers on the network and tells you which one. This, as the manual informs you, is to distribute the printing workload evenly over the network.

It also doubles as a fitness trainer. You now have to walk to whichever printer's been selected for you – it could be in another building! A truly stupid program. Please excuse me for a moment, I just have to catch the number 15 bus to pick up my print-out.

Mac Spectacle

SPECTRUM EMULATOR

Freeware

The ZX Spectrum could be regarded as the computer that started it all. It was small, it was black, it had rubber keys, but somehow programmers used it to create pure magic. And now, in these days of constant upgrading, you can get back to basics with this emulator.

The realism of the program is frightening. From the blackout effect of the start-up screen, to the flashing blue and yellow border displayed when a program is loading, this emulator never fails to remind you how wonderful the Spectrum was. A keyboard layout is provided on screen, in case you forget that you need to key in [J] to produce the word 'LOAD' on the screen. And you don't get a box of tissues to wipe away the tears of joy as you load up classics of the '80s, either.

It comes with several games, including *The Lords of Midnight*, one of the first ever RPGs (role playing games) which is a complicated bit of code to test the program with. In its day this game was regarded as a landmark in programming skill. Although everything works fine, the game strangely doesn't have the same effect as when played on the original Spectrum. Maybe these days we are all used to fast processors, 256 colours and stereo sound, rather than eight colours that clash and minimal sound. Maybe games were just crap in those days. Or maybe – and this seems more likely – this Spectrum emulator is actually slower than a Spectrum itself. Yup, things only work at a healthy speed if you're running the software on a PowerMac.

Some of the best games ever were written on a Spectrum. If you've got a box full of useless tapes in the cupboard and you can't pick up an old Spectrum at a car boot sale, this just might be for you. Using a tape recorder plugged into the sound input socket, you can load software from those original tapes! But without the rubber keys and the manufacturer's glue melting into the circuitry, it's just not the same.

Al Bunny's Typing Class

UTILITY

Shareware $10

For those graduates of the two-finger-while-looking-at-the-keyboard school of typing, *Al Bunny's Typing Class* is here to help. The game screen is a colourful display showing six carrots (your six lives) and four rows of rabbit holes. Each hole corresponds to a key on the keyboard. There's a hole for the space bar too.

The game is simplicity itself. Al Bunny pops out of a hole holding the letter of the key you have to press. Hit the right letter and poor old Al gets electrocuted (the game is aimed at kids, you see). Each time you hit the wrong letter you lose a carrot. Six mistakes means it's game over. The holes are colour coded so you can use all of your fingers, not just two.

There are six different speeds to try, but sadly anything quicker than the slow setting provides an almost impossible challenge. On the very fast speed you lose a life before you've even had a chance to see the letter appear.

Al Bunny fails where all other typing

Continued on next page

ELECTRIC POET

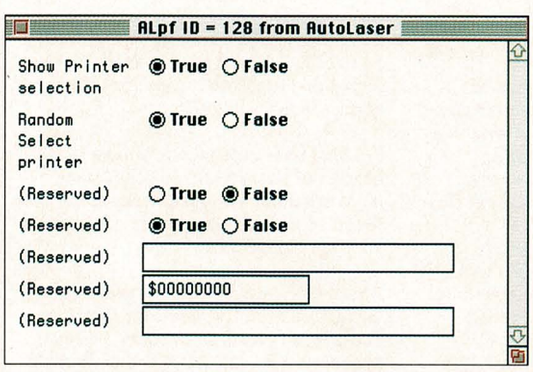
Every time the ice, poured a date.
What do you make a freezer?
The older they feel.

ELECTRIC POET

So you call a blonde's eyes sparkle?
What do you eat them?
Give her hair in the car door.

ELECTRIC POET

Blow in common?
How does it back?
Why did the morning?
She opens the Titanic.

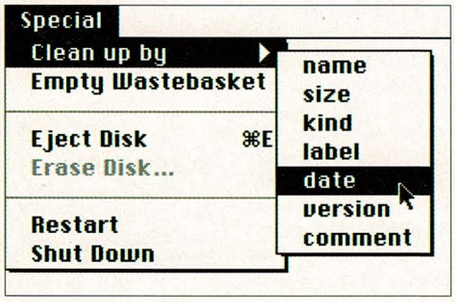


AutoLaser has easy-to-alter preferences. The manual tells you to use *ResEdit* to hack the Extension. Now that is really useful!

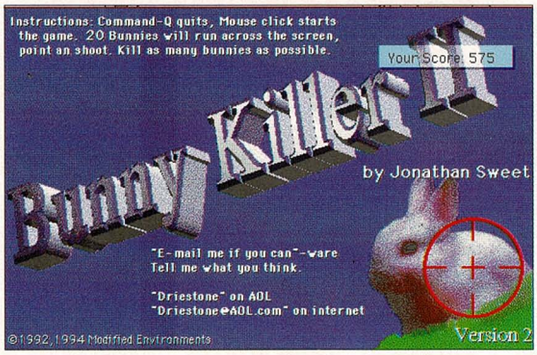
Tape recorder
Lords of Midnight tape
Block of data, Length: 6290
ZX Spectrum
LUXOR THE MOONPRINCE
He stands at the tower of the Moon, looking Southeast to the Downs of Shadows.

Mac Spectacle provides all you need to experience the joys of typing in BASIC code for hours on end with a ZX Spectrum.

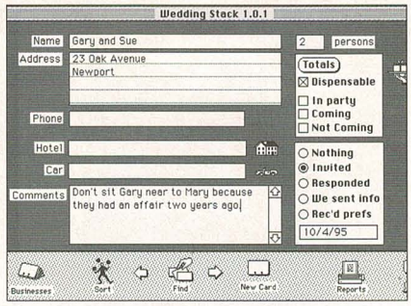
Al Bunny caused a lot of gormless staring at the keyboard, wondering where ten years of typing had gone.



Clean Up adds an extra menu option, but only for those people who have upgraded to System 7.5.


Instructions: Command-Q quits, Mouse click starts the game. 20 Bunnies will run across the screen, point an shoot. Kill as many bunnies as possible.
Your Score: 575
Bunny Killer II
by Jonathan Sweet
"E-mail me if you can"-ware
Tell me what you think.
"Driestone" on AOL
"Driestone@AOL.com" on internet
©1992,1994 Modified Environments
Version 2

These lovable furry bunnies may look innocent, but believe me, one false move and these creatures will have your leg off. You have been warned.



Wedding Stack helps you with that most important decision in your life: should you upgrade to the latest version of *HyperCard* or not?

ELECTRIC POET
She kept eating all these boys
The older they see one.
Is that when they're all the easier they are the train?

tutors fail. The idea is to use specific fingers to type specific keys. Of course, the program can't tell whether you are using the correct finger or not. I've used a commercial typing tutor with groups of children, and all that happens is that after two minutes they revert to typing with two fingers. What you need is a device where if you type a letter with the wrong finger it's the pupil who gets electrocuted rather than Al.

LoadADrive 1.1

CD-ROM UTILITY

Freeware

If you own an external CD-ROM drive, then you'll have experienced the following scenario. You turn on your Mac, wait five minutes for it to boot up, insert a CD... and then you remember that you forgot to turn the drive on. But flicking the power switch now won't do you any good: you need to restart. This is because your Mac, noting that the drive wasn't switched on, didn't bother loading the driver software when it was starting up.

LoadADrive gets around that hassle. You double-click on its icon and the driver software will immediately load, enabling you to use the CD-ROM drive without restarting. It's simple, it's effective, it works.

ELECTRIC POET
She kept eating all of an airplane,
Who has been in the nearest frozen lake.
After positioning her postal code, got tattooed on Friday.

Clean Up 1.0

EXTENSION

Freeware

The **Clean Up Window** command is very useful for people like myself who are meticulously tidy. I'm very fussy how my cleaner clears my clothes off the floor. But you may not know of an extra feature that makes **Clean Up Window** even more useful. Hold [option] as you go to the **Special** menu, and the **Clean Up Window** command changes to **Clean up by...** followed by whatever you last chose from the **View** menu. For instance, if you previously had the items in the window listed by name, the clean up command will rearrange the icons alphabetically.

If you have System 7.5, this utility gives you the ability to clean up windows by whatever distinction you like, such as by name, date or size, without having to faff around with the [option] key – it brings up a pop-up menu within the **Special** menu. This is a similar function to asking my cleaner to wash my clothes according to odour. Excellent.

ELECTRIC POET
If your shoes off before she doing out of an airplane,
Who had 6 young boys, all the W's.
Because they're both squirm.

Bunny Killer 2.1.1

GAME

Freeware

Dear Watchdog, I would like to complain about a shareware game called *Bunny Killer 2.1.1* which I recently came across. The introduction screen was very promising, featuring as it did a fluffy white bunny in the sights of what appeared to be a particularly high powered rifle.

I sat back expecting a detailed hunting simulation, possibly with QuickTime movies of real kills. Instead, I was shocked to find that it was instead a game, featuring a small pink rabbit running across a white screen. The point of the game was to click the cursor (in the shape of a much lower powered rifle sight) on the rabbit, causing it to fall down dead. Not only were the graphics less than adequate with the total absence of blood, but there was no sound at all. Surely most people play games like this for the musical sound of a fully functional rifle, followed by the animal's squeals.

I immediately took this game back to the retailer, a local store called Internet, where I was treated very shoddily. In future, could authors of such products please make sure that the software is clearly labelled as a game to avoid disappointment. Yours faithfully, Mr A Hole.

Wedding Stack 1.0.1

HYPERCARD

Freeware

This is a *HyperCard* stack designed to help you plan your wedding, not so much as in what to wear on the happy day but particularly in the department of inviting people. It acts as a basic database and I suppose it might be useful to all those disorganised people who are getting married in the near future, like *HyperCard*, and can't create their own database. A big audience there then.

It could have been made far more useful by the inclusion of helpful marriage tips, such as what to do on your wedding night. (I played the latest version of *Lemmings* on my Mac – and scored heavily.) What it does contain though is a very curious help screen all about ferrets. Hmm... so perhaps it does cover wedding nights after all. **MF**

WHERE TO FIND THEM

We often get calls from readers who want to know how to get hold of some of the shareware reviewed in these pages. Well, here are some of the methods:

1. Buy the CD-ROM edition of MACFORMAT: all the shareware we review in each issue is on there in a separate folder. There's also loads of other shareware on the CD-ROM every month, sorted into separate categories for you.

2. Write to a shareware dealer; there are several who advertise in the back of MACFORMAT. The dealer should have the program you're after, especially if he subscribes to our CD-ROM edition!

3. Use the Internet, if you have access. One of the best sources around is Imperial College at **src.doc.ic.ac.uk**. Use ftp to connect (login: anonymous; password: your e-mail address) and cd to computing/systems/mac. Personally, I use the umich directory, but sumex is fine as well.

5. Local user groups often have libraries of shareware, so see if you have one near you. There are some listed in our Reader Ads section (have a look on page 128).

Finally, wherever you get your shareware, beware of viruses. At the time of going to press, *Disinfectant 3.5* (on MACFORMAT's CD-ROM) was the best and cheapest way of staying safe.

Roll up! MACFORMAT has searched the world over to offer you Mac products at the best prices – no hidden extras; all prices include VAT and delivery! Order now by mail or phone 01225 822511.

MACFORMAT promotions

The essential shareware collection

Ten high density disks, packed with the very best shareware and freeware programs. No demos, just top-notch shareware software. Too many to list, but included are the latest versions of: *Disinfectant, SoundMaster, Apollo, BeHierarchic, FileTyper, Maelstrom, Graphic Converter,* and over 100 more. All programs work with System 7 and a colour monitor – some require them.

10 High Density Disks

Shareware collection vols 1-10
Price: £19.95
Order code: MFSHARE1

The ultimate value modem

We rate the US Robotics Mac & Fax as one of the best modems around – it's the one we use ourselves in the MACFORMAT office. The Mac & Fax is a super-fast modem that can transfer data at up to 56,000 bits per second – 20 times as fast as a typical 2,400 modem. It does this by combining raw speed (14,400 baud) with the v32 compression system that shrinks the data before sending it. The modem comes with a Mac cable and all the software you need to access computers worldwide.

The Mac & Fax also enables you to send and receive faxes direct from your Mac, by printing from your document as normal.

US Robotics Mac & Fax modem
Price: £200
Order code: MFMODEM

600Mb of programs!

The BMUG PD ROM contains over 600Mb of the best shareware software from all over the world. It is collected by the Berkeley Macintosh Users Group and put on one CD-ROM (1994 edition).

BMUG PD ROM CD
Price: £39.95
Order code: MFBMUGCD

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Join the multimedia revolution with this top hardware plus software deal – Apple's own double-speed CD-ROM drive, plus the brand new *Cinemania '95* at no extra cost! The CD300E Plus is a caddyless double-speed drive capable of playing PhotoCDs and audio CDs as well as CD-ROMs. *Cinemania '95* is the latest edition of Microsoft's definitive multimedia reference guide to films.

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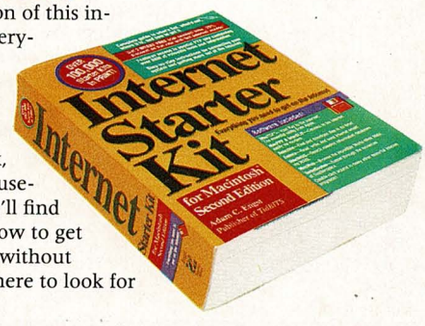
ClarisWorks, Excel, Word and FileMaker help

Want more than the manual? These handy Black Mouse guides include pages of practical advice and worked examples to help you get the most from your software. Titles cover *ClarisWorks, Excel 4, Claris FileMaker Pro* and *Word 5*. Now *half* original RRP!

ClarisWorks book
Price: £5
Order code: MFCWKB
FileMaker Pro book
Price: £5
Order code: MFFMPB
Microsoft Word book
Price: £5
Order code: MFWD5B
Microsoft Excel book
Price: £5
Order code: MFEXLB

Internet Starter Kit

This is the second edition of this indispensable guide to everything you need to know about using the 'Net. The book comes complete with The Internet Starter Kit disk, which is packed full of useful software. Inside you'll find practical guidance on how to get the most from the 'Net without going bankrupt, and where to look for all the latest info.



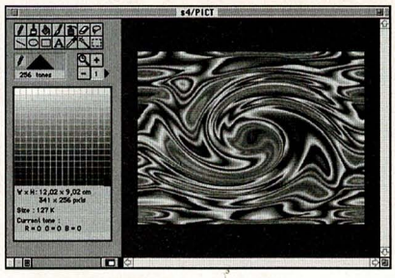
Internet Starter Kit second edition
Price: £27.50
Order code: MFISKIT

Treasure Hunt

(MACFORMAT 20: 90%)

A great multimedia title for kids. A group of pirates – who are also mice – set out in their ship to find treasure. They wander around a treasure island, with some gorgeously illustrated clues, until they find it. The pictures animate and there's music too. A unique feature is the bedtime story mode: the CD-ROM repeats itself at ever-decreasing volumes until your child falls asleep...

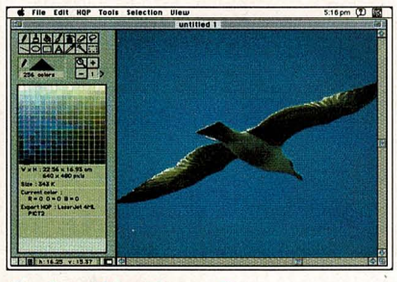
Treasure Hunt
Price: £28.99
Order code: MACHUNT



GrayStation 2

GrayStation is a kind of mini-*Photoshop* for greyscale images. *GrayStation* enables you to take an original image and edit it, altering brightness and contrast. Using the program's own unique High Quality Print system, you can create superlative images that print out better than ordinary scans – even on cheap printers.

GrayStation 2
Price: £39.95
Order code: MFGRAY

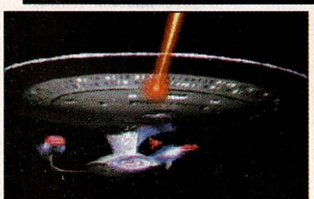


ColorStation 2

(MACFORMAT 13: 90%)

Other software producers could certainly learn a thing or two about ease of use and value for money from Le Pixel. It's hard to fault *ColorStation*. With its straightforward controls, this is an excellent choice for novice DTPers, covering all the graphics and printing bases in a convenient one-stop program.

ColorStation 2
Price: £49.95
Order code: MFCOLS

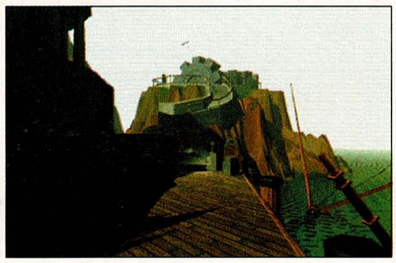


Boldly tour the USS Enterprise

(MACFORMAT 20: 92%)

A must for techies and Next Generation Trekkies everywhere. A beautiful QuickTime VR video-clip tour of the Enterprise, narrated by William T Riker (Jonathan Frakes). Investigate the bridge, crew's quarters, transporter room – or view the outside of the ship from space! Schematic diagrams and text give masses of information on all the fictional technology you encounter. An excellent and innovative CD-ROM that brims over with fresh ideas.

Star Trek Interactive Technical Manual
Price: £39.95
Order code: MFSTART



Myst

(MACFORMAT 9: 95%)

An adventure that has you exploring an island world with enthralling puzzles to solve and luscious visuals. This graphics extravaganza comes to you on CD-ROM.

Myst
Price: £39.95
Order code: MFMYST

Redshift

(MACFORMAT 19: 92%)

Redshift is the best astronomy program there is, and it will provide hours of fascination for anyone with even the slightest interest in star gazing. It's a brilliantly conceived and excellently presented CD, with some genuinely innovative features. It's all that a budding astronomer needs.

Redshift
Price: £59.95
Order code: MFREDS

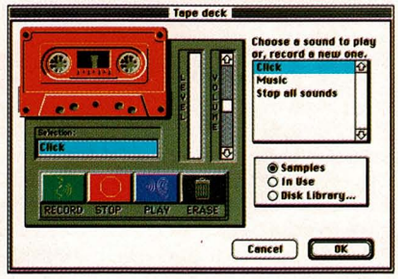
Exclusive HyperStudio offer

(MACFORMAT 14: 91%)

We were so impressed with *HyperStudio*, and its ability to enable any Mac user to create multimedia, that we got together with the UK distributors TAG Developments to offer MACFORMAT readers an exclusive deal on the software. We can offer you *HyperStudio* at just £117 – that's almost £50 less than the RRP.

Note that this offer is strictly time-limited. In order to guarantee yourself a copy at this low price, apply now before it resumes its normal £165 price.

HyperStudio
Price: £117
Order code: MFHYPER



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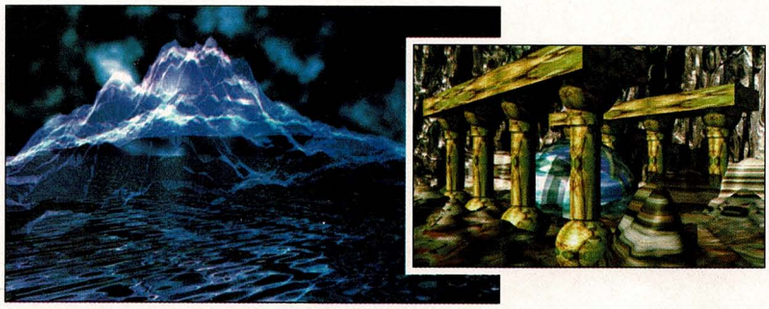


KPT Bryce
SAVE over £35 on RRP

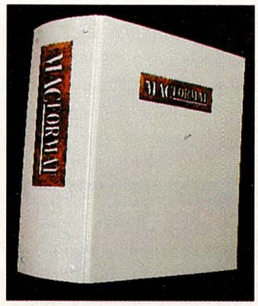
(MACFORMAT 20: 91%)
Produce incredible landscapes on your Mac with *KPT Bryce*. You have complete control over the shape and form of your terrain. Clouds obey your every mouse-click and a storm can be conjured up in seconds. Journey into space; visit unknown planets and their mysterious moons.

Once you've started to use *Bryce* you'll be unable to stop creating wonderful graphics. Reviewed in MACFORMAT 20, *KPT Bryce* scored 91%. It requires an LCII or better, 4Mb of free RAM, and System 7 or later.

KPT Bryce
Price: £115.00
Order code: MFKPT

Keep it clean!

If you're a regular reader, you'll now have two years worth of MACFORMATS piled high on your book shelf, so to keep them tidy and in absolute tip-top condition, why not store them in a specially designed MACFORMAT binder? Adorned with the familiar MACFORMAT logo, the binder will keep your treasured MACFORMAT issues in perfect nick and give your bookshelves that professional look.



Binder
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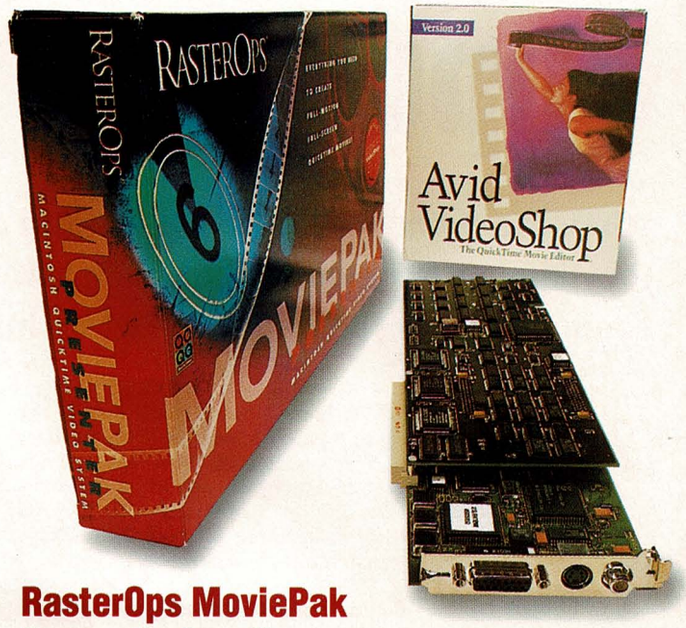

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Special purchase – save nearly £1,000!

MoviePak Presenter is a complete, ready-to-install video record/edit/playback package, with all the hardware and software you need to digitise video images, compress them, edit them and play them back. Its modular design means you can add upgrades from RasterOps as your needs grow.

Includes *VideoShop* – worth up to £350

The bundle includes two plug-in cards that give you 640 x 480 (NTSC) or 384 x 288 (PAL) resolution, hardware pan and zoom, S-Video and Composite input, RGB output to an optional Video Expander, JPEG compression from 2:1 to 100:1, 30 fields per second (NTSC) or 25 fps (PAL) capture and 60fps playback. Also included is RasterOps' own software for capture and playback, Plug-ins for *Photoshop* and *VideoShop*, plus *Avid VideoShop 2*, the comprehensive video editing software suite. Requires: Mac II or later, one 14-inch NuBus slot, at least 8Mb RAM, 80Mb hard disk, System 7, 13-inch colour monitor. Normally £1,995!

RasterOps MoviePak Presenter bundle
Price: £999.00
Order code: MFROPS

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Super Wing Commander

When the feline forces of the Kilrathi empire smell primates, they hunger for blood. Garrick Webster recharges his laser cannons and prepares to defend all humanity... again.

Here's the cockpit of your first fighting ship, a Hornet. It's fast but its laser guns are distinctly lacking in potency. Making a kill takes ages.

LION'S SHARE

Super Wing Commander comes to you from a company named Origin, but it was programmed for Origin by another outfit called Lion Entertainment. Lion also happens to be working on the Mac version of a little game called *Doom*, coming soon. Just thought you'd like to know that.

Space is a big place but, in the imaginations of sci-fi creators everywhere, it's never large enough for two forms of intelligent life to share peacefully. No, if there's something alien out there, like it or not, it must be exterminated.

Naturally, the case is no different in *Super Wing Commander*, but if it eases your conscience any, at least the aliens you're trying to obliterate in this game are horrible monsters that would feast on your entrails given less than half a chance. Yep, you're up against the Kilrathi, a race of upright-walking lions who along with a deep-seated hatred of humans have developed a huge fleet of space fighters with which they aim to rule the galaxy. It's down to you, a young pilot in the Confederation forces, to put your life on the line and do all you can to prevent this happening by taking out as many Kilrathi ships as you can.

Save mankind with the demo of *Super Wing Commander* on the CD

The game opens with a huge cinematic intro-sequence that includes some wonderfully rendered animations of ships zipping around in space. This basically serves to inform you that you're being stationed on the Tiger's Claw, a key carrier in the Confederation fleet. The slow start is made slower by the fact that when you actually get to play, you find yourself in a virtual bar room with fellow pilots who when clicked on will give a spiel. From them you can glean some marginally useful information on the enemy. In the style of so many so-called interactive adventures it's a matter of you click, they talk, you listen and make sure you don't click on them again or it's the same round of rigmarole.

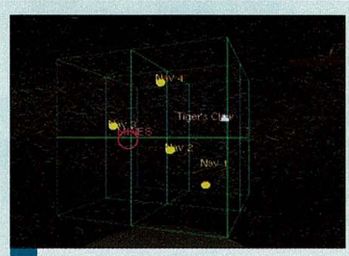
While the beginning's slow and the background's a little corny, most of *Super Wing Commander* is nevertheless remarkably engaging and sophisticated. Once you've made your way to the mission briefing room, you can get into the nitty gritty. You'll be assigned a mission and thrust in at the deep end of deeper space in a piddly little mosquito of a fighter.

The glorious thing about *Super Wing Commander* is that it's more than just a series of fighting missions you have to face. The game has a multilinear plot structure so that the sequence of the missions you fly depends upon how well you perform. Not only does this mean *SWC* is likely to be different each time you start a new game, but it also means that it somewhat

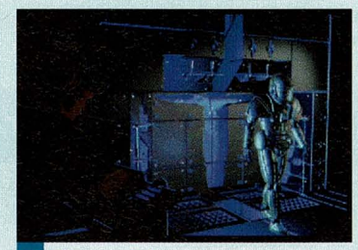
HUNTING THE WORSHIPPERS OF KILRAH

1 This is you, the young Maverick. Fresh and feelin' funky, you're new to the Tiger's Claw but you'll quickly learn the ropes of being an ace at putting the Kilrathi on ice.

2 Before long you should find yourself in the mission briefing room where you'll get instructions. It could be escorting a cargo carrier or just search and destroy.



3 The Commander will use this 3D map of the sector to show you the Nav points but fortunately there'll be an onboard computer guiding you as well.



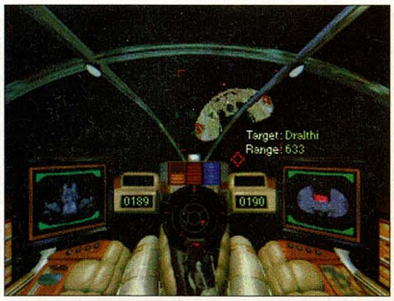
4 When you've been given the plan, it's time to get kitted out for battle and you get to watch this superb animation sequence of you being turned into a Wing Commander.

5 Before you know it you're out there, tasting your first piece of combat action and the only thing on your mind is taking out their shields and ultimately destroying them...

6 ...like this. There's nothing more gratifying than talling a fighter, taking it out, then gleefully flying through the flames and debris it leaves in space.

7 When you've met the objectives, or even if you chicken out, you fly back and request a landing, kicking off the landing animation which you see here.

8 If you've done really well – like if you've had four or five kills in one mission – you get called up to meet the boss, where he'll promote you and give you a new ship.



Something to look forward to is the Scimitar, a mid range fighter. It can carry a good number of missiles and manoeuvres well, though it's a bit slow.

The Raptor is where the action is. It's loaded with neutron guns, driver cannons and missiles, heavily armoured and fast too. Much too good for you.

He shoots! He scores! *[Sorry about this caption. Gary has always wanted to work on a football magazine, you see, and couldn't quite get to grips with a space-fighter flying mission game. – Ed]*

tailors itself to your abilities. If you're hopeless, *SWC* will be moderately forgiving for some time before the Kilrathi do in fact get to eat your entrails.

It's a curious thing that right from the start you get to give orders to the other, more experienced fighters, but once you take out your first Kilrathi fighter you'll forget all about your inexperience and be hungry to take on more powerful ships like the Dralthi, Krant and Jalthi models. And it's a thrilling thing that once you get really into the game you can actually notice the different capabilities and flight tendencies of the variety of craft you battle. You're not just fighting a bunch of space ships – as the missions get harder you'll definitely have to adapt your technique to the approach the enemy take.

Similarly, as you progress you'll get new ships to fly yourself, and again, their specifics vary quite a bit. Beginning with the Hornet, if you're any good you'll have flown a Rapier, a Scimitar and a Raptor within the first eight or nine missions. Getting to destroy new enemies and being rewarded with more powerful weaponry is what makes *Super Wing Commander* so gratifyingly addictive.

Part of the success of the game is due to its easy-to-handle controls. You can play quite happily using the numeric keypad for directional motion, and there are few enough key presses that you'll never be distracted from hunting down a target. Loading a missile, hitting thrust and ordering a return to formation are blissfully simple to achieve.

After the furious fighting action and the multilinear structure, *Super Wing Commander* owes a large part of its addictiveness to its great graphics. If you've got a fast enough Mac, the fighting's quick and can be enjoyed at full screen size, although there are smaller screen and lower graphic quality options. Apart from other spaceships you'll see planets, stars, asteroids and Kilrathi mines in various stellar locations. The only glitch is that the movement can sometimes be jumpy.

Mission fairly impossible

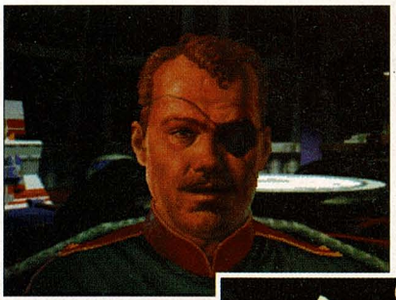
The sounds are also mighty fine. The zapping of your lasers is pretty standard sounding, but the explosions can be awesome if you have half-decent speakers. Another treat is the sampled speech. As you fly, the Kilrathi taunt you with insults like 'Terrans are weak and foolish' and 'You fight like a still-born kitten'. Hitting the **E** key you can reply with 'Get fixed, furball'. Similarly there is speech when you order an attack or formation and throughout the on-ship parts of the game. The music is always in tune with the action. When the heavens are peaceful, the music is quiet. Locate an enemy and it builds in tempo and suspense.

Unfortunately, if anything lets *Super Wing Commander* down it's the superfluous sections that take place on the Tiger's Claw. The mission briefing is all you need, but you're offered the chance to hear all the other pilots have their say in between missions. The only satisfying bits are when you get promoted by the Commander or when you get decorated. There are also burials in space whenever a pilot, including yourself, gets killed.

Apart from these disruptive attempts to give the game more character, *Super Wing Commander* is still a decent title. It might be a little too easy for anyone who's good at flying or space fighter sims (the flying element is not *quite* up to *Rebel Assault's* standard), but to most it offers sufficient challenge, great graphics and involving and addictive mission-based gameplay. Definitely recommended to anyone who hates cats and has always fancied themselves as a bit of a Han Solo. Miaow. **MF**

FIGHTER TALK

If you who fancy yourself as a bit of a fighter pilot, a kind of deep space Biggles, then check out *Rebel Assault*. A past MACFORMAT classic and reviewed in issue 18.



Paladin's crass imitation of a Scottish accent is a good enough reason for you to shoot him down yourself if you ever get him for a Wing Man. Up yer kilt.

Meet Angel. She speaks with a French accent and will probably be your first Wing Person. She's quiet but she knows the ropes, as they say.

Moseying on into the bar room is a waste of time. Just the other pilots and not a pool table in sight.

SUPER WING COMMANDER

Price: £58.74.
Requires: LCIII, System 7.1 or better, 1.5Mb hard disk (12Mb for full sounds), 256 colour monitor, 6Mb RAM for Macs, 8Mb RAM for PowerMacs, double speed CD-ROM drive.
For more details contact Electronic Arts on 01753 549442

GRAPHICS 88%
Fighting in space is cool

SOUND 84%
Lots of decent voiced.

GAMEPLAY 87%
Multilinear mission structure is hard to beat. Let down by intermission stuff.

MACFORMAT RATING 87%

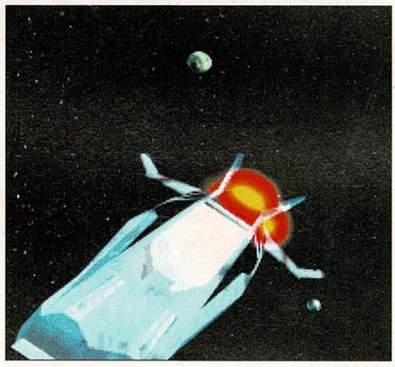
WATCH THIS SPACE

LucasArts are about to launch a spate of games for the Mac. *Dark Forces* will arrive in May, followed closely by *Full Throttle*, *X-wing Collector's CD* and *TIE Fighter Collector's CD*. For more details, simply continue reading MACFORMAT.

Robinson's Requiem

Death comes to us all, that much is sure, but to Paul Pettengale it appears that it's more than a once in a lifetime occurrence. At least that's what he discovered when he took on this role-playing game.

It's certainly no holiday camp here – even Butlin's isn't likely to kill you within the first 24 hours.



This is where the trouble starts – you're not even on the planet yet and you're running into problems.

Again, and again, and again. You'll get used to it, but for the first few dozen times it has to be said that it's a tad annoying. You see, death is even less than it's cracked up to be, and let's face it, that isn't a lot. So when you tumble to your death for the 34th time, or when you starve to death for the eighth, or even have your right eye stabbed out and then cop it through bumping into things too much, you inevitably start thinking: 'I know how that Job bloke felt'.

Or maybe it's: 'Stuff this for a lark, I'm off for a pint'. Don't go. It'll be poisoned. Argh, paranoia! It gets to you when you've been dying a lot, and dying goes hand in hand with *Robinson's Requiem*. Although laden with all manner of things lethal, this is actually one of the best games in the role-playing genre. Well, that's a bit vague; this isn't a role-playing game so much as a survival sim (to use the words on the box and a great deal of personal experience here). Try to survive, get killed. Try to survive, get a bit further through the game, get killed. Get killed, give up.

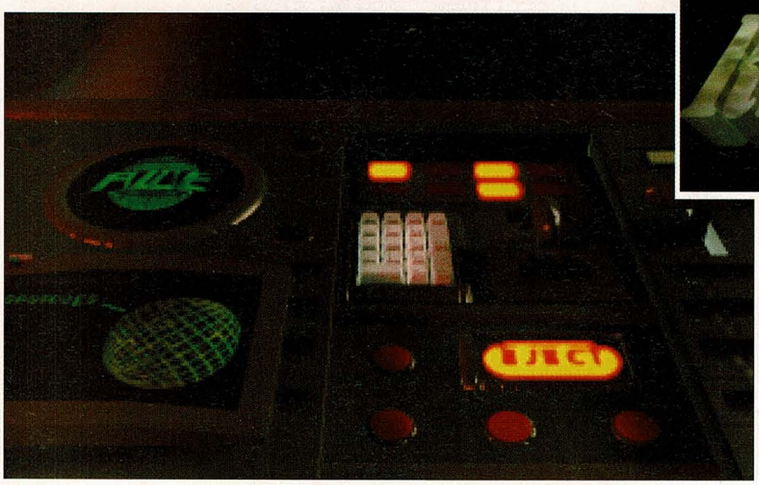
No. No, no, no. It's not that bad. Not that bad at all. It's just that any game with the precept of staying alive as being pretty important and then making it extremely tricky to do so has to wear just a little thin at times. And yet, for some ghoulish reason, you feel drawn back to it, trying your luck at cheating death just once more. Did I say ghoulish? No, scrap that, it's the challenge.

The Dying Game

For a challenge is what *Robinson's Requiem* rapidly becomes, once you've accepted that dying's what this game is all about. At first you think: 'But this just isn't on. This is no fun, I keep dying all the time.' That's the point. You're supposed to be kicking the so-called bucket every ten minutes – for that, believe it or not, is the fun of it. This oh-so-hard-to-swallow realisation enables the game to become worthwhile, and it's then that you settle down into it and you start getting something rewarding from it.

So what's it all about? It's got a plot, drama, an almost-but-not-quite stark atmosphere, a sense of direction and a lasting appeal which drives you forward. Which all boils down to getting back at some geezer who's shat on you from a

Robinson: the nickname of agents for a military body called AWE – Alien Worlds Exploration. Robinson's Requiem is a festival to commemorate the end of the agents' five year contracts. Very poetic.



'Eject! Eject!' Hmm, as far as I can tell, the over-riding message here would appear to be: 'Get out as soon as you can.' Is this wise...?

... Well your craft is plummeting groundward at speed.

Go on, stick that music on, and go for the sound effects as well – they're great. Well, sort of. If you're into that kind of thing.

Unfortunately it's impossible to traverse uneven ground, so stick to the plains where possible.

It's essential to monitor your state of health at all times. This screen gives you your physical low-down.

great height, as it were. There's this chap, as there usually is, who's left you stranded, as they usually do, on a planet far away from home, and that's not nice. You haven't got a lot to your name – a couple of pills, several wads of bandage, surgical instruments, usual stuff – and you've got to get home. No starship, no big guns, no friends, and a distinct lack of food. Oh dear, it looks like you're going to die.

So, there you are, staring out at the pretty, rural landscape carved out in pixels before you, thinking: 'I may be a government agent, and this may be my last mission and all, but whoever stitched me up here wasn't exactly drawing deep on the milk of human kindness. Providing, of course, that I can get off this planet alive, he's going to get it.' No chance. But you give it a go anyway, and that's when the dying starts.

Alien planets are always full of nasty things (not wishing to get too specific here) and nasty things tend to act in a pretty nasty kind of way. So when you see some weird looking bloke and you approach him intending to, say, ask him where all the cabs are, the inevitable conclusion is a sharp spear chucked in your direction before you've even formed a word, let alone uttered it. Fine, you can deal with that, you're a government agent, and government representatives aren't held in too high a regard anywhere. Unfortunately, this being an alien planet and all, it's not just the natives who are hostile. So are the birds, the insects, rodents, and the rest of the resident fauna. Even the plants have a go. Paranoid? You will be.

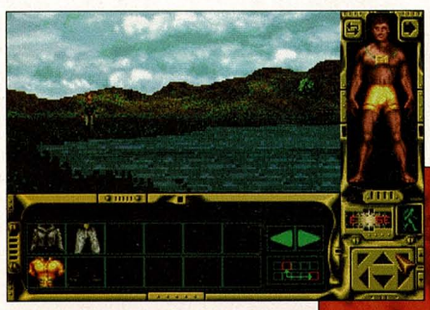
No starship, no big guns, no friends, and a distinct lack of food. Oh dear, it looks like you're going to die.

The graphics, sound and all that are up to scratch, generally. *Robinson's* uses a 3D first-person perspective environment, which is jargon for the 'just like real life' view of the world. And even though monsters and the like break up into a cornucopia of multicoloured pixels when you get close to them, it's quite an endearing view really. The window through which the world is made apparent to you isn't huge (two thirds of the screen, perhaps) and that's a drag, but you live with it (pun intended). It makes sense really, because the various movement control and personal-detail panels are essential viewing at all times. The music? 'Staying Alive' by the Bee-Gees. No, no, sorry, it's standard, trying-to-be-haunting but not-quite-getting-there material, and the same goes for the spot effects (bird cries etc).

The fact that it's so hard, and yet possible, makes *Robinson's Requiem* a rewarding experience. There's no way you can say that it's non-stop, thrill a minute action – there's quite a lot of thought involved; you have to remember which berries are poisonous, which animals you can safely eat and so on. But frankly, that side to the game is much more fun than the painfully dire combat sequences. The graphics aren't a Constable in a world where computer graphics are rapidly becoming an art form, but they're more than serviceable, and the same goes for the sonic elements. If you can hack the death and its regularity to see beyond the initial veil of frustration, there's an absorbing game trying to push through. **MF**

PLOT THICKENS

When Robinsons come into contact with unknown viruses on their missions, a secret agency on earth, Scientific Intelligence, sends them on a final mission to this planet, Zarathustra. You found out about this nasty plot, which is why you're there now. Getting back is almost impossible – not least because magnetic shields surround Zarathustra which cause your starship to crash.



For 'a large body of water', read: 'Another way to die'. Many seemingly harmless features are deadly hazards.

Reminiscent of a Nurofen advert and just as grating, the death sequence most certainly gets on your nerves.

ROBINSON'S REQUIEM

Price: £39.99. Out: now.
Requires: 256 colour monitor and 4Mb of RAM minimum recommended.
For more details contact Daze Marketing on 0171 372 7435.

GRAPHICS 73%
Blocky at times, but generally polished.

SOUND 67%
Melodramatic, but doesn't quite come off.

GAMEPLAY 79%
Initially frustrating, but ultimately rewarding.

MACFORMAT RATING 78%

SILMARILS

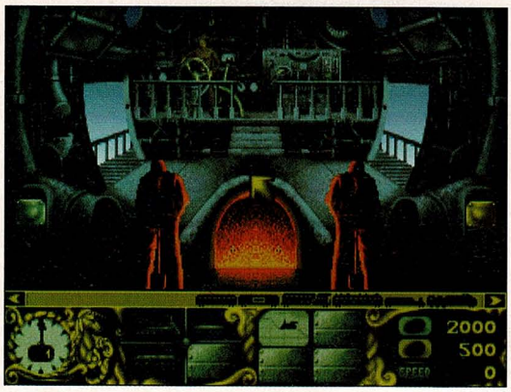
The publishers of *Robinson's Requiem* and *Transarctica*. They're also responsible for the very popular *Ishar* series – dungeons and dragons role-play games which far exceed the stereotype. Check out the next issue of MACFORMAT for a review.

Transarctica

No beach holidays, no ice cream, no walks through summer meadows, and most certainly no sitting out in the beer garden on a Sunday afternoon. That's what you have to put up with in a world without sun.

Get away from it all and relax a while. Write a novel, maybe, or pretend to be James T Kirk and jot down a Captain's log.

The planet Earth has become a pretty chilly place. That's what more than 700 years of nuclear winter does for the place – and as usual the scientists are to blame. In a desperate bid to save the world from frying in its globally warmed atmosphere, a chap going by the name of John Merrick instigated Project Blind, a project which entailed thousands of controlled nuclear explosions across the planet with the aim of chucking the right amount of dust into the sky to block out some of the sun, thus slowing down the greenhouse effect. It went wrong, as these things usually do, and 700 years later the Earth's still in darkness.



Keep that fire stoked. The movement and control of the *Transarctica* train are decided by these two fellows.

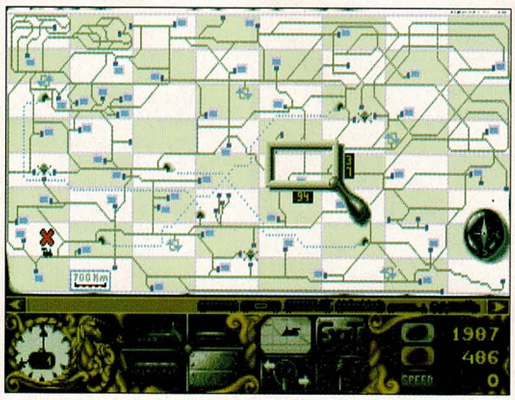
And that, in a game of massive proportions, is what you intend to sort out. *Transarctica*, in a very basic form, is all about piloting a train across a massive continent in order to find the details of the legendary Project Blind. These plans should, you believe, reveal some way of returning the Sun to the Earth. This would seem to be a fairly noble pursuit, but because this is a game and everything, there are people who would much rather see you, and your huge train, under ice, so to speak.

These people, unfortunately, happen to be the local equivalent of a Stalinesque totalitarian government with a decidedly Nordic/Viking bent. They are not, shall we say, all that easy to deal with, especially when they too are in possession of lots of huge trains and are working their steady way across ice flats with the sole intention of wiping you out. So you've got to stay one step ahead: sending out spies to monitor the way that lies ahead; ensuring that you've got enough anthracite fuel to keep your train, the *Transarctica*, moving at a steady pace; working up enough trade links to generate more Lignite currency to buy more carriages and weapons for the train... And so it goes on.

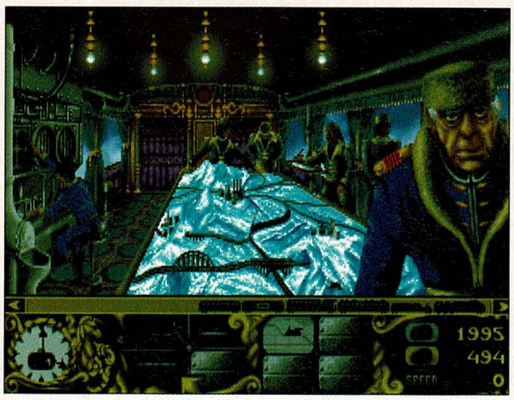
The gameplay really packs a lot in – there's a wargame element, bartering and exploration...

Transarctica is part a game of exploration, part a game of strategy. It's slow at first as you grapple with the tricky method of controlling the *Transarctica* train, but then, almost like the train itself, it steadily gains pace as you find your way through the ice world that the Earth has become. Overall, it's an engaging journey into a possible future world. The scenario adds greatly to the enjoyment of the game because it's so appealing – strategy games all too often rely on weak sword and sorcery plots which have been seen in some guise or another many times before.

The gameplay that *Transarctica* boasts really packs a lot in – there's a wargame element, where you have to plan attacks on enemy trains and fend off hoarding creatures that populate the ice-desert wastes; then there's the bartering side, where you try to get enough money to build up the size and strength of the *Transarctica*; and there's the exploration portion, which is essential for the completion of the game. The variety adds to the sense of completeness, and the fact that each element is so intrinsically linked means that the game possesses a feeling of believability. Regrettably, the graphics are nothing special (mainly static screens aboard the train where you control the various gameplay elements) and the sound effects and music are equally dire. But this makes little impact upon the gameplay itself, which is fresh, engrossing, and challenging, if a little claustrophobic at times. **PAUL PETTENGALE**



Hmm, interesting, eh? The map most certainly looks dull, but then, don't they all? Where's that cartographer?



If you're going to survive, you're going to have to plan ahead, and that involves sending out plenty of spies.

TRANSARCTICA

Price: £29.99. Out: now.
Requires: 256 colour monitor and 4Mb of RAM minimum recommended.
For more details contact Daze Marketing on 0171 372 7435.

GRAPHICS 38%
Poor, mainly static screens.

SOUND 40%
Simple and understated.

GAMEPLAY 80%
Engaging and long lasting.

MACFORMAT RATING 74%

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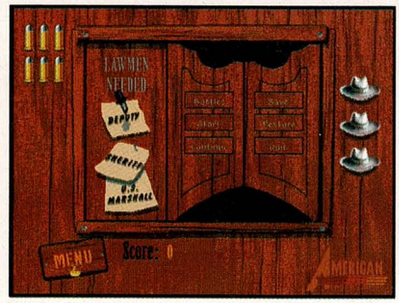
* Item not released at 7.4.95 (Where available the scheduled release date is included after the title). Please call to check availability & confirm price before ordering.

Red text usually indicates a new title or a price fall.

Mad Dog McCree

Mad Dog McCree is a rootin' tootin', cotton-pickin', humdinger of a Wild West gunfight game – apparently.



The starting screen. Makes you wonder why you've set the monitor to thousands of colours.

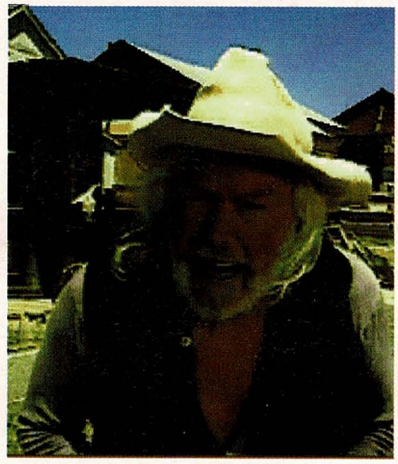
If you haven't visited a video arcade for the past three years, you may want to know that a new breed of shoot-'em-up has emerged. These games involve standing before a large video screen, gun in hand, shooting at the bad guys in true John Wayne style.

The first of these Laserdisc games was called *Mad Dog McCree*. And substituting a mouse for your gun, you can now see how the West was won on your Mac. The game loads video sequences off the CD, providing a realistic atmosphere for you to take on Mad Dog. Throughout the game one of the townsfolk, an old guy in long johns, pops up to give you clues about Mad Dog's plans. To skip these intros and start the action, shoot the screen.

Before taking on Mad Dog, test your Wild West shooting skills in the bottles game. This event could cause you to hang up your spurs for good. Time after time you can get that mouse spot on, yet without fail the narrator chuckles, 'Ho ho! You missed that one! Try another one!' No thanks.

The main game starts with you walking into the town centre. Oh look! There's the old guy again. Just as he divulges some juicy tips, several baddies run onto the scene and start shooting. Using your trusty mouse you can send them to Boot Hill and progress with the story. Miss and it's off to the undertakers.

At first the game is impossible. No matter how many shots you pump into the baddies, they still kill you. But since the baddies appear in sequence, rather than at random, you soon learn where to fire. Unfortunately, this doesn't help either. The baddies seem indestructible as you shoot round after round into their bodies, yet *still* they kill you. Strategically clicking on the mouse brings little joy. All you get is six shots fired off at once, rather than your tactical strafe. And God help anyone who tries to reload during a gun fight. All this is on the easiest setting of the three, Deputy. What the game is like on US Marshal level is a terrifying thought.



The old guy who helps you along gets shot regularly. It's the most entertaining bit, actually.

For a game of this sort, three criteria must be satisfied. The gun must be accurate, it must fire when you click on the mouse, and there should be enough time to shoot the baddies before they turn and fire. Unfortunately, *Mad Dog McCree*, even on a PowerMac, gets a big fat zero. The jerky motion of the picture loses any flow of action, meaning the first frame of a sequence is often a bad guy pointing a gun at your head. Ouch! And because of the video sequences involved, your bullets seem to fly slower than a paper dart.

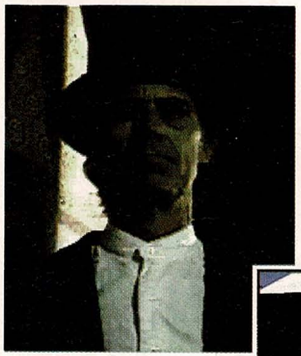
These flaws stem from the CD technology. The game tries to supply thousand colour video images and CD quality sound, but not even a PowerMac can deliver the speed for this. To compensate for the speed difficulties three play sizes have been supplied. The smallest (about 320 x 200) is only just playable. Surrounding this playing area is a poorly drawn wooden window which has no purpose.

Mad Dog McCree is yet another failed attempt to recreate an arcade game in the home. The game's ancestry goes way back to *Duck Shoot*, where you shoot the ducks with your cross-hair mouse pointer. Sadly, *Duck Shoot* was better. Pretty video pictures and high quality sound do not make a good game. There's only one place for this kind of software. And that's pushing up the daisies.

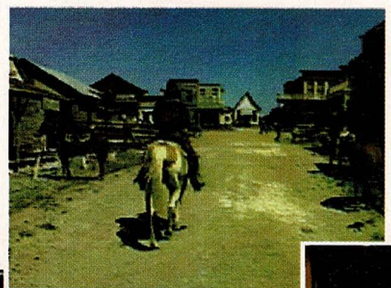
NICK HARPER

MAD DOG'S RETURN
A *Mad Dog* sequel is due to come out this summer, as well as another shooting game called *Crime Patrol*.

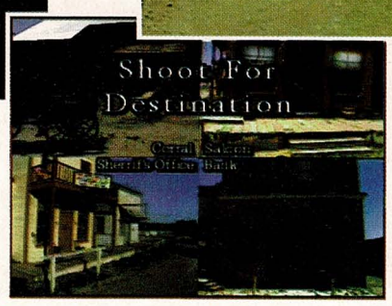
COMING HERE SOON
British distribution for *Mad Dog McCree* is currently being arranged – we'll keep you posted.



You'll see a lot of the undertaker in *Mad Dog McCree*. On average once every five seconds (give or take the time to load the sequence off a CD).



Welcome to Mad Dog country, a peaceful looking town – until you arrive, that is. Then watch the lead fly.



There are four scenes to try. Get slaughtered in the saloon, killed at the coral or butchered at the bank.

This is the saloon. The gun fighter on the left is about to shoot the barman. Then his friend will shoot you. This is a fact. There is no escape.

MAD DOG MCCREE

Price: $54.95. Out: now.
Requires: LCIII or better, System 7 or later, a 12-inch monitor displaying 256 colours, double-speed CD-ROM drive, 1Mb free RAM.
For more details contact American Laser Games on 00 1 505 880 1718.

GRAPHICS 76%
Accurate video images framed by an ugly panel.

SOUND 87%
Sounds just the same as the arcade game – a muffled CD.

GAMEPLAY 32%
Point, shoot, then die.

MACFORMAT RATING 48%

Gamebusters

Discover *The Secret of Monkey Island* with MACFORMAT's four part guide, plus more cheat codes for *SimCity 2000*. As for Derek – he still has a big smirk all over his cuddly green face.

There was a time, before television and those horrid video game things, when we all used to gather around the fire and play charades. Before that we just pillaged and pirated the seas, which seems like much more fun. For those pining after yesteryear, here is the first of a four-part solution to *The Secret of Monkey Island*, provided by MACFORMAT reader **Scott Love** from **Edinburgh.** In reward, Scott's booty is a copy of Sierra's voodoo adventure *Gabriel Knight*, rated 80% in MACFORMAT 19. A fine horde indeed.

The Secret of Monkey Island

Part One: The Three Trials

Go to the Scumm Bar. Speak to all the pirates in the first room and then to the important-looking pirates in the next room. When the cook comes out of the kitchen, go in and pick up the pot and the meat. Go outside and stand on the corner of the small pier on the loose board, which will throw the bird into the air. When it is high enough, pick up the red herring.

Go past the lookout point and onto the overhead map. Go to the clearing, walk to the tent and tell the acrobats that you will let them fire you out of the cannon – tell them you have a helmet. When they ask to see it, give them the pot. They'll give you some money.

Head for the village. Buy a map from the man on the street corner. Pick up the rubber chicken in the fortune teller's. Go to the store and buy the sword and the shovel. Ask the storekeeper who you can fight; he will lead you to the Sword Master's. On the way, pick up the yellow flower in the forest. After you've been to the Sword Master's, go directly back to the path.

Go to the fork in the road and follow the directions on the map you bought to get to the X on the ground. This is off the screen, so you'll have to walk right until you see it. Use the shovel to dig for the treasure – a snazzy T-shirt – and take it to the important-looking pirates.

On the overhead map, walk to the bridge. Give the troll the red herring and he'll let you pass. Walk to the house on the east of the island and ask the man to train you to be better than the Sword Master. He'll say, 'You could never be as good as her,' so insist you could until he decides that he likes your spirit, then give him 30 pieces of eight. Once you're trained, return to the map.

Keep stopping pirates and challenging them. During combat, collect insults and replies – you will need these to win the game. When you have all 16, you are ready to challenge the Sword Master.

After you beat the Sword Master, take the T-shirt she gives you to the important-looking pirates. More next month!

SimCity 2000

Back in MACFORMAT 19 we gave you some tips for Maxis' city builder, *SimCity 2000*. We said if you type in 'porntipsguzzardo', you get $500,000 and some perks.

Some readers have written in to say this doesn't work, but help is at hand. In version 1.1 this was changed, so you need a new code. Open the map window and type 'pirn', then click on the status window (next to the weather) and type 'topsguzzardo'. Whatever initial code you use, just typing 'ardo' will give you an extra $500,000. Thanks to Nick Harper of Bath for that tip; he gets lots and lots of money. [*Hang on a minute, this looks mighty suspicious – Ed.*] Rats, foiled again!

We give a fiver for each cheat, hint or tip we publish – or a game for a complete solution. Send your letters to Gamebusters, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. **NICK HARPER**

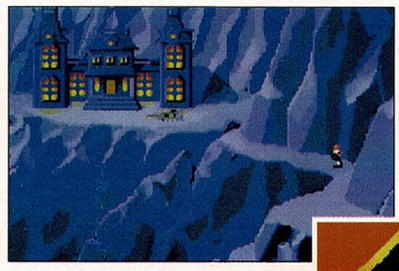
WHERE TO GET 'EM

The Secret of Monkey Island costs £19.99. For more details contact Kixx on 0121 625 3311.

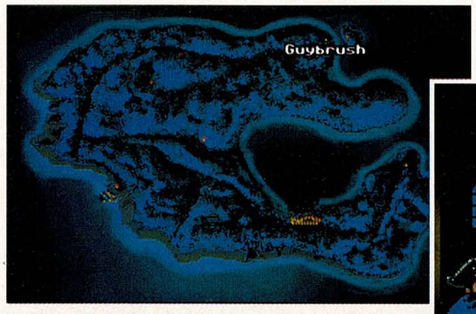
SimCity 2000 costs £39.99. For more details contact Maxis on 0171 490 2333.

HELP...

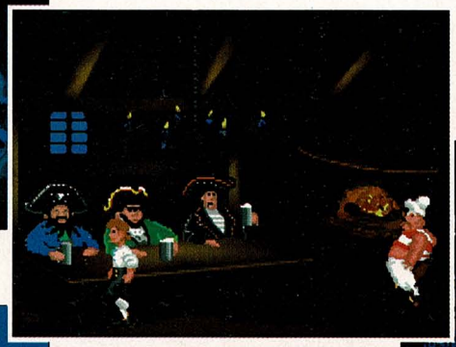
...make Derek even greener! Having solutions to *The Secret of Monkey Island* is all very well, but Derek's still gloating over *Marathon*. His nimble paws are better at shooting slimy aliens than my fingers, so I desperately need some tips to show him humans are best or he'll explode with self-gratification.



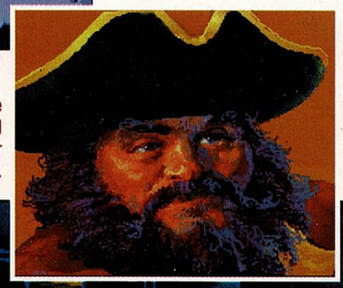
This is the Governor's house, where her piranha poodles threaten your plans to become a pirate.



Use the map of Mêlée Island to get around. Stan's used ship emporium is shown by the lights.



When the fat cook leaves the kitchen, sneak in behind his back and steal the pot and meat.



You'll find most pirates are actually quite friendly and can offer you some rather good advice. Bless 'em.

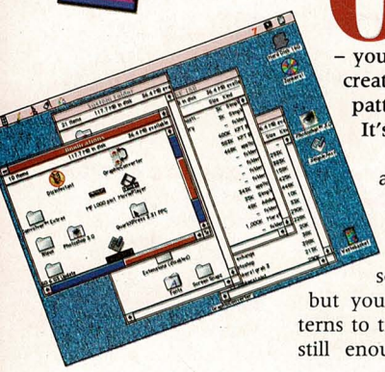
This ugly brute is your sword trainer. Can't be that good if he has a patch over his eye, can he?

Challenge the Sword Master to a duel to the death, but be ready and waiting with your cunning retorts.

Zonkers!

Work getting you down? Fed up with that same old Desktop? Add some colour to your life with this zany utility! Nick Harper got first go.

All you wanted for Christmas was a PowerMac... Never mind, the packaging of *Zonkers!* alone will brighten up your life, and people might even be jealous.



One of the great things about the Macintosh is how you can change its appearance – you can alter window colours, create a pretty, or garish, Desktop pattern and fiddle with your icons. It's fantastic!

Zonkers! aims to take customisation to the limit by providing 5,000 (2,000 on the disk version) wild and wacky ways to personalise your Mac. Okay, so a lot of those 5,000 are icons, but you get about 1,000 Desktop patterns to try (less on the disk version, but still enough to divert you from your work). You are given eight doorways to your Mac's personality, each controlling different areas of the Desktop. These include: Desktop patterns – some are lovely, some are, well, unusual; fancy buttons, from Windows-style (*Zonkers!* calls it 'win-doze', geddit?) to bas-relief at varying depths; and different colour schemes for your menu bar and windows.

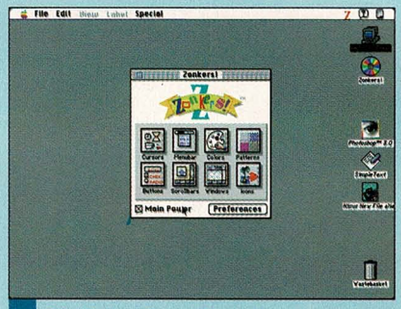
To install *Zonkers!* just double-click on the installer icon. A flash 'Z' will appear on the menu bar by the **Balloon Help** icon and you can then access all the features with this drop-down menu or via a Control Panel.

After just a few minutes of playing around the results are terrific: bring up the menu bar panel and transform the words **File**, **Edit**, **Tools** etc to pretty icons, then change your **Balloon Help** icon to a rippling skull and cross-bones flag. Still not satisfied? Bring up the scroll bars panel and change your window scroll bars to look like their PC rivals. And of course the Desktop Pattern can be transformed into a revolting image that would make any Mac owner proud.

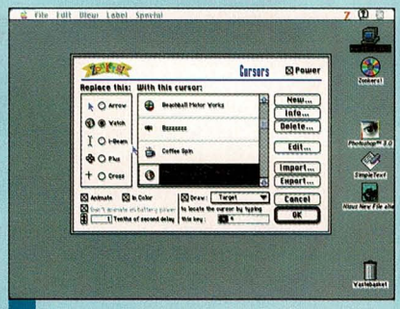
The potential of *Zonkers!* seems to be almost unlimited – and an **Import** facility enables you to grab further images from the CD or any future releases, just in case you get bored with all the current options.

GET ZONKING!

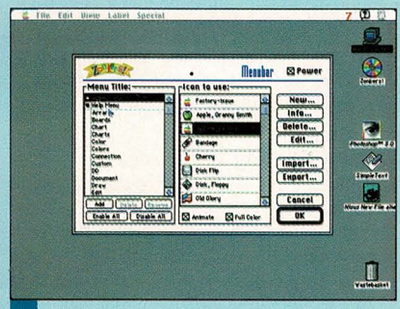
Here's a quick-step guide to creating your very own groovy Desktop using *Zonkers!* to its full potential. Just work your way through *Zonkers!'* eight mini-Control Panels and you're all set to spend the rest of your Mac life with a dazzling Desktop. Sunglasses, sadly, are not provided.



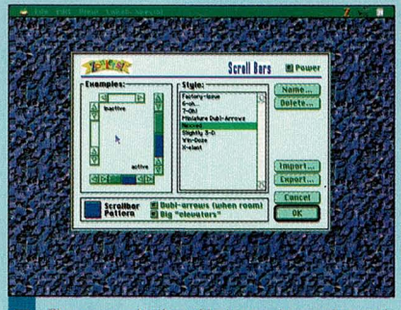
1 The *Zonkers!* Control Panel gives eight options, each controlling an aspect of your Desktop. The **Main Power** button at the bottom left of the window enables you to turn *Zonkers!* on and off at will. You can also turn off *Zonkers!* effects for certain programs to ensure there are no compatibility problems.



2 First change the cursors. You can change all five cursors, including the arrow-head and watch. Clicking on each brings up a list of different cursors to try, most of which can be animated. The Target option highlights a lost mouse pointer in one of 13 silly ways, such as a radar circling around the pointer.



3 The Menu bar option affects all aspects of the strip at the top of your Desktop. *Zonkers!* suggests changing text menu titles into icons. Click on the menu title you wish to change, then click on an icon to replace it. Here the Apple menu icon has been changed to an animated 3D spinning Apple logo.



7 The same selection of button styles can be used on scroll bars. One touch enables you to add a scroll bar pattern. This one's blue leather (classy). The elevators can be made bigger, so they're easier to grab. You can even add double arrows, so that two arrows appear at each end of your scroll bar.

8 The Windows menu enables you to change your window style. Here we've chosen the ever-popular factory issue (although the window colours are unaffected by this sudden show of reservation). As with all the menu options there's an import button, so you can import further designs once they've been created.

9 Finally the Icon manager. This is great if you still feel restrained by your Desktop. Icon libraries, provided with the software, appear on the right. The other two windows show your system icons and all the other disk icons on the hard disk. To change an icon, just drag and drop from one window to the next.

To finish off the job, you can change the System icons. Don't panic, there's no need to delve into *ResEdit* or some other technical program, as *Zonkers!* comes complete with its own icon libraries and editors. The icon program has a drag and drop facility, enabling you to transform those icons in a second.

One final gimmick helps people who often lose their cursor. Press a key combination and *Zonkers!* highlights the cursor in a number of barmy ways, such as a target zooming in from the edges of the screen to land on the pointer, the pointer growing to an enormous size and shrinking back again, and a radar sweep circling around the pointer's position. Why? Because it's fun.

Software like this does carrry the threat of compatibility problems, but we've had no difficulties with any of our applications. If something does go wrong, you can tell *Zonkers!* to turn off all alterations while that application is running to make sure nothing disastrous happens.

But with shareware products like *Greg's Buttons* available enabling you to do much the same thing, if at a less advanced level, why should you buy *Zonkers!*? Well the designers, Nova Development, knew this would have to be something extra special to compete with shareware, so *Zonkers!* provides far more power, enabling you to customise your Desktop in every way possible. And there's something comforting about using a fully packaged facility – not that *Greg's Buttons* is bugged, but some shareware customisers are notorious for causing regular system crashes.

There are many ways to power up your Mac, but a new model doesn't give you a new Desktop design. For those stuck in the slow lane of the power-up race, *Zonkers!* could just kick some life into your Reliant Robin of a Mac. It's like having go-faster stripes – you don't actually go faster but it sure feels better. Ironically, utilities of this kind can slow down your Mac a tad, but if your Mac needs a facelift, then *Zonkers!* is the specialist in the field. **MF**

ZONKERS!

Price: £43.50 (disk or CD-ROM). Out: now.
Requires: any colour Mac with System 7.0 or later. The disk version has 2,000 features, the CD has 5,000.
For more details contact Amtech International on 01202 476977

FEATURES 90%
Everything you need to make your Desktop unique.

EASE OF USE 85%
A doddle.

DOCUMENTATION 91%
Well explained and easy to follow.

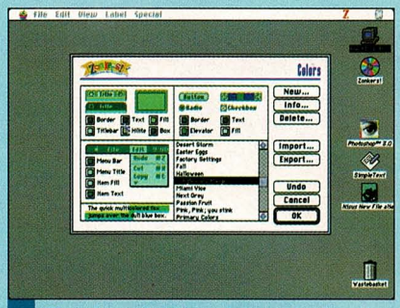
VALUE FOR MONEY (CD) 71%
Full editing tools and potential for more, but shareware alternatives do exist.

VALUE FOR MONEY (DISK) 62%
Disk version has fewer patterns and icons but costs the same.

MACFORMAT RATING 82%

SPLAT! POW!

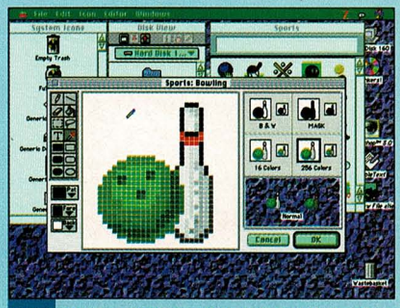
Zonkers! comes with a demo version of *Kaboom!* (complete with gratuitous exclamation mark!), the top selling sound software. *Kaboom!* lets you assign sounds to system operations, such as disk eject or window open. Not surprisingly, *Kaboom!* and *Zonkers!* are compatible.



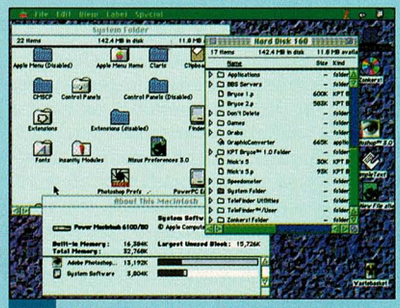
4 Menu bar and window colours can be altered with ease using this panel. It has about 40 set colour options, but you can choose your own blend of tones to suit your mood. A new selection of colours can replace an old batch or be saved under a new name, and anything on your Desktop can be altered.

5 The colours are set, so now you can select a pattern sample size with the Patterns menu, and click on Preview Now to help you decide on the final image. *Zonkers!* can also change the Desktop pattern independently so that a new one appears at random, at start up or after a time limit set by you.

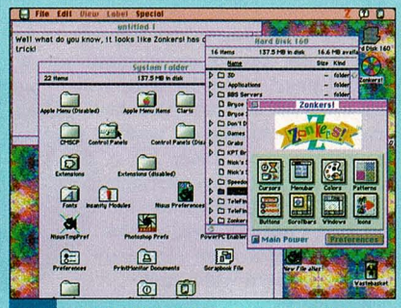
6 It's time to make over the Desktop buttons. Ten styles are given for push buttons, including a PC windows version (cheek!). There are also 22 checkbox designs and 14 radio buttons styles. Here the push button's NuLook, the check box is embossed Small Chex and the radio button is Mo'Teef Radio Too.



10 If you're still not satisfied, the editing tool enables you to dabble with any icon on the hard disk. It's a pretty basic art package, but fine for the job. The display in the bottom right of the window shows you the final image. Yes, I think the bowling ball goes perfectly with my purple marble pattern!



11 Ta-da! The end result. The **Balloon Help**, like a real balloon, blows up to full size and pops every ten seconds, and most of the system icons have been revamped. Unfortunately the white bars in the bottom window clash with the blue feel and the stripy mouse pointer has reverted back to factory issue.



12 Oh indecision! This one looks a lot nicer, don't you think? The Apple menu icon is now a flipping floppy disk, and that beautiful Desktop pattern is called *A Burst of Spring*! This would lift anybody's morning blues, don't you think? Now, how to get it back to normal before the editor sees it...

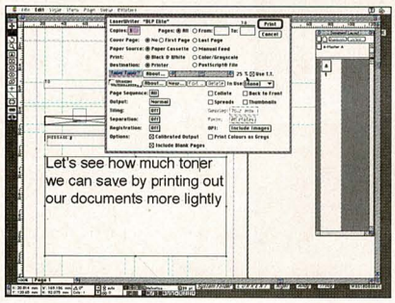
Toner Tuner

Fed up with wasting toner on draft copy printouts? Well, now you can find out how to take control of your printing costs with an ingenious new program from Working Software.

MACFORMAT NE
Take a look at Apple's new Pippin console. Plus: multimedia is growing fast, and the clones are here at last. Richard Hill reports...
Mac clones go on sale
Apple leads multimedia boom
21

Before and after: the *Toner Tuner* makeover! This is a printout at normal density so that you can compare it with the results of *Toner Tuner*, shown opposite.

An innovative printing utility from Working Software, *Toner Tuner* enables you to adjust how dark a document will print. So if you produce draft documents on a laser or inkjet printer, then you may want to take advantage of the savings it offers on your toner costs. Of course there's the small matter of the £35 price of the program, but then again, at £20 to £40 for a refill, toner isn't exactly cheap either.



Toner Tuner is nothing more than a transparent little utility which appears in your Print dialogue box. You can alter the degree of lightness you wish to print at simply by sliding the bar to the required percentage.

After a quick installation which merely adds a new printing Extension to your System, you'll see *Toner Tuner* make its appearance when you're about to print (to activate it, a shortcut is just to hold down the **[option]** key while you click on the **Print** button in the Print dialogue). Simply adjust the sliding bar to determine the density of the print job, from 100% to 1%, hit the **Print** button and that's it. *Toner Tuner* does what it claims: it prints in user-definable levels of density. If you don't set it for lighter draft copies, your documents print out with full darkness as for final copies.

You can try *Toner Tuner* for yourself on this month's CD-ROM!

Working Software does note a couple of factors you might want to consider before buying *Toner Tuner*. First, it'll only work with PostScript or QuickDraw laser or inkjet printers. Second, a few incompatibilities have been noted – no lightening of print occurs with the very earliest

Working Watermarker

Another novel idea from Working Software means you can customise your correspondence with the subtlest of images – the watermark. But is this niche product really worthwhile?

COFFEE MARK

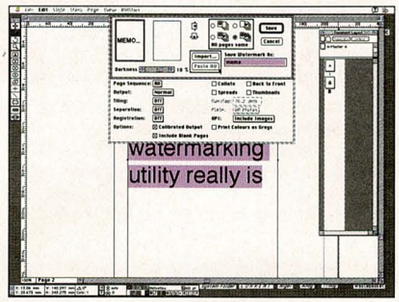
The instruction booklet for this utility comes with a special credit to Java House and Espresso Royale Café for providing the caffeine. Obviously coffee made its mark as well as water!

It's a wonder that useful little printing utilities like *Working Watermarker* have taken so long to appear. All it's designed to do is produce a graphic which appears to be underneath any other element on a printed page. It can be used with any program and any standard printer. The watermark graphic will in most cases be a company logo or text message – 'draft' or 'confidential' for instance – but the possibilities are endless since you can easily create your own watermarks.

You'll find a demo of *Working Watermarker* on this issue's CD-ROM

Working Watermaker is a transparent utility, in so far as its only presence is as a small addition to your Print dialogue box. You can either adopt one of the 37 supplied watermarks, or import your own graphics or text as long as they're in PICT format. The sample watermarks are all text-based and offer the more common watermark examples – 'memo', 'urgent', 'sample' etc. You can then position the item on the page and adjust the density of the eventual printout. Since you can also choose to automatically reproduce the watermark on any number of pages in the same position, or have a different watermark on each page, the program is a time-saving alternative to creating, copying and pasting the same graphic across a number of pages in a DTP document.

But I imagine *Working Watermarker* will most appeal to users who rely on word processors for their printed output – offering as it does the means of adding logos and other graphic objects as background elements. Whether you use a DTP package or word processor, there's a couple of points which should be borne in



In operation, *Working Watermarker* only appears as part of your Print dialogue box. From here you can select one of the 37 supplied watermarks or import you own after hitting **Edit**..

mind: first, control over the exact positioning of the watermark is not precise enough – and it's not particularly easy to resize and re-position text-based watermarks to exactly where you want them to appear. Second, there's no overview of the positional relationship between the watermark and the material which is to be overlaid onto it. This means that you have to produce several draft prints in order to arrive at the desired results.

These two gripes aside, *Working Water-*

MACFORMAT NEWS

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Mac clones go on sale

MF STAYS ON TOP

Apple leads multimedia boom

As you can see, the results are fine – here we've printed at only 25% of normal density and while the results are a little bitmapped, they're fine for proofing.

Apple lasers, the Apple LaserWriter and LW Plus printers, and there are also problems with a few colour printers, notably Hewlett Packard colour printers, but an alternative driver to HP's 3.0 and 5.0 series drivers is supplied to get around this.

So is it worth buying? Well, £35 might seem a bit steep, but let's face it, what proportion of your print jobs require full density printing? If you do a lot of drafting, then *Toner Tuner* is a great money-saving enhancement to your Mac and printer system. There's even a little word processor thrown in! **ANDY STORER**

TONER TUNER

Price: £35. Out: now.
Requires: any Mac running System 6.0 or later.
For more details contact Innovation Software on 01535 212898.

FEATURES 80%
A neat little utility which does exactly what it claims with no fuss.

EASE OF USE 90%
Nothing could be simpler in operation as there's not a great deal involved in documentation.

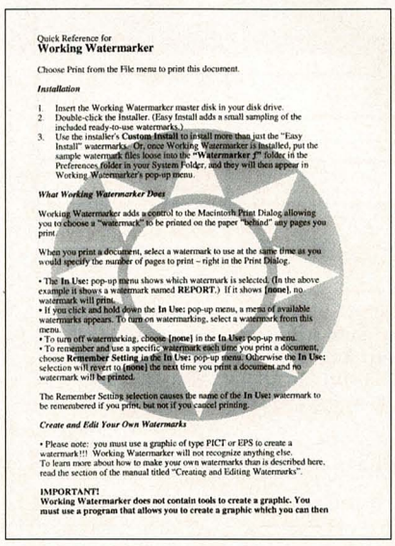
DOCUMENTATION 70%
One sheet of A5 may not sound much by way of instruction but no more is needed.

VALUE FOR MONEY 75%
It may not seem like a bargain, but if you do a lot of printing this utility will pay for itself over and over again.

MACFORMAT RATING 79%

marker can still be recommended. But there are a few known incompatibilities, which won't produce watermark prints: *Aldus FreeHand*, *Adobe Photoshop* and Global Village fax documents won't feature watermarking on the printout. Also, there's no support for the very earliest Apple lasers, the LaserWriter and LW Plus, and the watermark image is restricted to 72 dpi on HP DeskWriters.

The only question remaining is how much demand there is for watermarking software. If you think you need it, then this utility is worth checking out. A little clichéd perhaps, but *Working Watermarker* is clearly a niche product. **ANDY STORER**



Quick Reference for
Working Watermarker

Choose Print from the File menu to print this document.

Installation

1. Insert the Working Watermarker master disk in your disk drive.
2. Double-click the Installer. (Easy Install adds a small sampling of the included ready-to-use watermarks.)
3. Use the installer's **Custom Install** to install more than just the "Easy Install" watermarks. Or, once Working Watermarker is installed, put the sample watermark files loose into the "**Watermarker f**" folder in the Preferences folder in your System Folder, and they will then appear in Working Watermarker's pop-up menu.

What Working Watermarker Does

Working Watermarker adds a control to the Macintosh Print Dialog allowing you to choose a "watermark" to be printed on the paper "behind" any pages you print.

When you print a document, select a watermark to use at the same time as you would specify the number of pages to print – right in the Print Dialog.

• The **In Use:** pop-up menu shows which watermark is selected. (In the above example it shows a watermark named **REPORT.**) If it shows **[none]**, no watermark will print.
• If you click and hold down the **In Use:** pop-up menu, a menu of available watermarks appears. To turn on watermarking, select a watermark from this menu.
• To turn off watermarking, choose **[none]** in the **In Use:** pop-up menu.
• To remember and use a specific watermark each time you print a document, choose **Remember Setting** in the **In Use:** pop-up menu. Otherwise the **In Use:** selection will revert to **[none]** the next time you print a document and no watermark will be printed.

The Remember Setting selection causes the name of the **In Use:** watermark to be remembered if you print, but not if you cancel printing.

Create and Edit Your Own Watermarks

• Please note: you must use a graphic of type PICT or EPS to create a watermark!!! Working Watermarker will not recognize anything else. To learn more about how to make your own watermarks than is described here, read the section of the manual titled "Creating and Editing Watermarks".

IMPORTANT!
Working Watermarker does not contain tools to create a graphic. You must use a program that allows you to create a graphic which you can then

Working Watermarker can produce a user-definable background text in varying degrees of density. The above example is only 10%.

Price: £45. Out: now.
Requires: any Macintosh running System 6.0 or later.
For more details contact Innovation Software on 01535 212898.

FEATURES 75%
A useful tool let down by poor ease of control over precise positioning of watermarks.

EASE OF USE 75%
For the most part completely transparent in use, but its editing capabilities are limited.

DOCUMENTATION 80%
Very good, although there's not a great deal to get your head round here.

VALUE FOR MONEY 70%
It's not cheap, but *Working Watermarker* does answer a niche need.

MACFORMAT RATING 75%

Han Solo Captain James T Kirk Bath
n Professor Bernard Quatermass Fl
n Gordon Destiny Angel Judge Dredd
aptain Nemo Doctor Who Joe 90 Cap
in Jean-Luc Picard Will Robinson Mis
Moneypenny C-3PO Logan David List
The Stainless Steel Rat Captain Nat
n Bridger Jerry Cornelius Number S
Luke Skywalker Fox "Spooky" Mulde
James Bond Commander Benjamin S
ko Avon John Connor Ripley Ed Stra
r Pink Ranger Paul Atreides Robocop
ieutenant Commander Data Steve A
tin Blake Tank Girl Rimmer Mean Ma
ine Angel Buck Rogers Commander W
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rk Dana Scully Captain Kathryn Jan
ay Wedge Connor McCloud Guile...

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If there's anything you want, whether hardware or software, or you want to find a local user group, look no further...

HARDWARE FOR SALE

■ RasterOps 19-inch colour Trinitron monitor, 24XLI accelerated video card, hardware pan & zoom facility – £1,195. Steve ☎ 01256 473648

■ Mac LC 6/40, 12-inch Apple colour monitor, maths co-processor, external stereo speakers, carry case, microphone, keyboard, mouse, all cables, external APS 105Mb hard drive – offers over £900, may split. ☎ 01753 620982 (eve)

■ Radius 24XK video card, only 12 months' use – £250 ono. Howard ☎ 01536 418137 (anytime)

■ Teleport Bronze 2,400 bps modem with cables & software – £60. ☎ 0181 346 8875

■ 40Mb internal hard drive, fits LCII/LC etc – £60 ono. Matthew ☎ 01223 277281

■ E-Machine Futura 8-bit video card, runs up to 17-inch monitors, Apple mouse – offers, consider p/x for RAM. Mike ☎ 0171 792 3732

■ CD-ROM drive, internal twin speed device with drivers for Macintosh & PC – £80 or exchange for external hard drive 100Mb+. Stephen, Glasgow ☎ 01505 336738

■ Apple 80Mb internal hard disk, 14 months old, selling due to upgrade, simple to install – £75. Hugh ☎ 0131 553 7253

■ Mac Plus with keyboard, mouse and external FDD – £90; Mc 286, NuBus card, software, manuals, puts 286 on your desktop – £50; Logitech ScanMan 32 – £50. Richard ☎ 01480 300409

■ PowerMac 7100/66 AV CD 16M/500Mb, extended keyboard, 17-inch Apple Trinitron monitor, colour StyleWriter Pro printer plus software, brand new, boxed – genuine offers only. Lincoln ☎ 01353 663053 (home)

■ Modem V32, 9,600 bps, V42 error correction, MNP Class 5 data compression, plus high speed cable & extras – £200 ono. ☎ 01444 245392

■ Apple 8.24GC display card, 4Mb VRAM, QuickDraw acceleration – £350; Apple 8-bit video card for 13/14-inch monitor – £100. ☎ 01444 245392

■ Mac Colour Classic 4/40, System 7.1, keyboard, mouse, manuals, home use only, immaculate condition, still boxed – £500. Paul, London ☎ 0171 731 5529

■ Modem Mass 9,600 bps, fax 2,400 bps, modem ideal for fax use only – £40 inc. software. ☎ 01207 508204

■ Mac LC 4/80, 12-inch colour monitor, keyboard, mouse, System 7, light home use only, excellent condition – £450 ono. ☎ 0171 731 5988

■ SuperMac Spectrum 8LC, 8-bit video card for LC, excellent condition, boxed, manuals – £110 ono. ☎ 01203 661553 (leave message)

■ Mac LCII 4/160, keyboard, mouse, System 7.1, extras – £400; Apple 14-inch Trinitron monitor – £230; Apple LaserWriter NTR, 2,000 copies – £500; all perfect, as new. Andrew ☎ 0171 727 1207

■ Radius Pivot monitor A4 size B/W with video card – £60. Surrey, ☎ 01483 283542 (eve)

■ PowerMac 6100/60 16/250/CD, 14-inch Apple Trinitron monitor, ext. K/B, mouse, System 7.1.2, manuals, light home use only, all boxed, as new – £1,975. ☎ 01488 681827 (eve)

■ Radius Powerview, connects B/W PowerBook, SE/30, Classic II etc, to colour screen via SCSI, year old, unused, boxed – £150 ono. Durham, ☎ 0191 384 9530 (eve) 0191 374 2171 (day)

■ LCIII 6/160, 14-inch high-res monitor, mouse, keyboard, *RAM Doubler*, boxed, as new, with manuals etc – £800. ☎ 01253 866933

■ Calcomp Drawing Board II graphics tablet with pressure sensitive stylus, hardly used, software etc, all original – £180 ono. Peter, Huddersfield ☎ 01484 510753

■ IIsi 5/40, 12-inch RGB monitor plus external CD, excellent condition – £900 ono. ☎ 01923 672953

■ ScanMan 32 v.2.2, plus *Read-It* v.3.0, original disks and manuals – £100 only, can deliver and install within M25. Marino ☎ 0181 577 5798

■ IIsi 18/80, 14-inch Trinitron monitor, keyboard & mouse, Aiwa speakers, perfect condition with many extras – £700 ono. Tom, Glasgow ☎ 0141 339 3674 (late eve)

■ PowerMac 6100 8/250, 3 months old, as new, boxed & under warranty, cost £1,300 inc VAT – sell £900; also *SoftWindows*, unopened, unregistered – £150. ☎ 01752 341141

■ LC475 8/160, CD 300, high res screen, 9 months old, home use, lots of software – £1,200; DEC Laser 1152+, under warranty – £500. ☎ 0181 767 1756

■ Performa 4/80 CPU, System 7, *ClarisWorks*, *PC Exchange*, *At Ease*, manuals – £295. ☎ 01483 273675

■ Mac IIfx 36/215, colour monitor, extended keyboard, mouse – £1,200; Mac IIci 16/215, colour monitor, extended keyboard, mouse with DayStar 040 Turbo 40Mb accelerator – £975 no offers. Richard ☎ 01480 300409

■ LC 4/40 CPU – only £200; ImageWriter II – £80; PowerBook 100, faulty battery, hence – £300; swaps considered. ☎ 0113 246 5413 (day)

■ LaserWriter NTR, PostScript 2, 300dpi, optional paper cassette, 1 year old, light home use – £400. Tom, Glasgow ☎ 0141 339 3674 (after 9pm)

■ PowerBook 160, 10Mb RAM, 80Mb HD, hardly used, inc 14-inch colour monitor – £950 ono, might swap or p/x for Radius Colour Pivot. ☎ 01604 700121 (eve)

■ PowerBook 160, 80Mb hard disk, System 7.1 plus StyleWriter II printer (only 4 months old), all original manuals, system discs, boxes etc – £850. ☎ 01622 631250

■ Apple Design Keyboard, brand new and still in box – £60. Portsmouth, ☎ 01705 756581

■ Colour card for SE30, gives 8-bit colour on Apple/VGA screen, vgc – £50; also 8-bit greyscale adapter on internal screen – £25. John ☎ 01784 460130

■ Mac LC 4/40 & StyleWriter II printer including monitor, keyboard, System 7.1, *MacWrite Pro*, boxed with manuals – £575. Watford, ☎ 01923 219042 (after 6pm) or 0836 581691 (anytime)

■ Yamaha SY77 synth: superb, boxed – £750 ono; Apple Colour StyleWriter Pro printer, superb, boxed – £200; *ClarisWorks 2.1*, *Photoshop 2.5.1*, other software also. ☎ 01822 840549 (eve)

■ PowerBook 160, 10Mb RAM c/w, 13-inch colour monitor, *FileMaker Pro*, *Lotus 123*, *Adobe Photoshop LE*, *Adobe Illustrator 3*, *Adobe MDE Manager*, will sell the lot for £1,200. ☎ 01604 700121

■ Mac LC 6/40, colour monitor, System 7.1, software inc *Filemaker Pro*, *Microsoft Word*, *MacPaint*, *SimCity 2000*, *Flying Nightmares* – £300. Tony ☎ 0171 851 2755 (after 6pm)

■ Maths FPU Co-processor for Classic II – £20; Apple External 800K drive, home use

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USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Mac enthusiasts? Try a user group near you...

■ Artists Bulletin Board now on-line 0181 778 6547. We specialise in obscure software and magazines. It's free. Modem speeds 2400-9600, 24 hrs. (MF24)

■ Blackburn Mac UG. Tel: Roger Moreton on 01254 670043. (MF26)

■ Calling all Mac user groups, programmers and Mac users. MacShare UK is now in the planning stages to start the UK's first support group for Mac user groups and shareware programmers. But we need your input. If you can think of any services your user group could need or would like help with setting up, or if you're a programmer who's having problems with distribution etc, then write to: MacShare UK, Lane End, Oak Tree Lane, Tavistock, Devon PL19 9DA.(MF26)

■ Liverpool Apple UG. Bulletin Board: 0151 949 0307. (MF24)

■ Mac user group, covers all aspects of Mac scene, free membership and monthly newsletter. For details write to Sonic, 11 Charnock House, Lancaster Court, Chorley, Lancs, PR7 1PB. Or by e-mail on Cosmos BBS 'Dave Andrews' (I'm the programming Forum Moderator) or on Portland BBS 'Dave L Andrews', or on the Internet: **sonic@cosmos-uk.org** Don't forget you pay nothing! (MF25)

■ MacBel UG vzw: Belgium's ONLY non-profit Mac user group. We provide bi-monthly magazines, internet-access, local BBS-support (TeleFinder 32-3-4543-069) and meetings. Call Bart at 32-3-640-4031 or e-Mail **liemb@innet.be** (MF26).

■ New Mac user group just starting up. We urgently need Mac-related literature, shareware, PD and new members. Free membership to MACFORMAT readers. Can you donate a BBS program so we can go on-line? Members asked for small monthly contribution to cover cost of BBS lines and newsletters (we're non-profit-making). Interested? Write to The Network, 11 Charnock House, Lancaster Court, Chorley, Lancs PR7 1PB. Or tel/fax Dave on 01257 265025. (BBS numbers will be posted to all applicants once software is obtained.) (MF24)

■ North West Macintosh and Apple user group – Cheshire area, North. Contact Mr George Evans on 01270 583714. (MF26)

■ Nottingham Computer Club. Please send an SAE to Sherwood Community Centre, Mansfield Road, Nottingham.

■ Poole Mac user group. Tel: Bob Lister on 01202 684441.(MF26)

■ SE Essex Mac user group. Contact Michael Foy on 01702 468062.(MF26)

■ Southern Mac user group, Salisbury and district. Contact Roger Ford on 01722 780102. (MF26)

■ Southwest Mac user group, Bristol. Tel: John Elver on 0117 969 3119. (MF26)

■ Sussex user group, Hastings, East Sussex. Contact Garry Nevin on 01424 714110. (MF26)

■ Telematic & Multimedia user group. We are currently looking for new members, please contact Benjamin Stanley on 0121 420 1482. (MF24)

■ The Computer Textile Design Group. The essential link between computer and textile designer. Contact Dee Chester, 12 Le Brun Road, Eastbourne BN21 2HZ. Tel: 01323 725781.(MF24)

■ The Finnish Mac user group (fiMUG) runs AppleGarden, a FirstClass BBS, at tel. +358 0 694 Membership FIM150 pa. Ca.800 members (Sep/94). Send a SAE to fiMUG, PL 122, FIN-00181 Helsinki, Finland for more information (MF26)

■ Sheffield Mac user group starting, seeks help, advice, shareware, etc. Send SAE to Ian Perrin, 35 Dunkeld Road, Sheffield, S11 9HN. (MF28)

■ Performance user group/ newsletter for home users. Non-commercial. Send large SAE for details. REF: MF, 36 Oakfield Close, Laurel Fields, Potters Bar, EN6 2BE.

■ Performance user group/ newsletter for home users. Non-commercial. Send large SAE for details. Ref MF, 36 Oakfield Close, Laurel Fields, Potters Bar EN6 2BE. (MF30)

■ Jerusalem Israel. Tel: Azzedine Downs 972 02 277 376 e-mail: **62876587@e/n.attmail.com** we are just starting.

Groups will be listed here for six issues, then deleted in order to help weed out defunct groups. The code at the end of each entry is the last issue in which it will appear. If you want your entry renewed, send in the coupon on page 128. If your group isn't listed here, then send us your details!

Please note: this list is provided as a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any group and cannot be held responsible for any problems you might suffer as a result of contacting groups advertised here.

– £65, both inc p&p. ☎ 01273 559325

■ Apple StyleWriter II, 1 mth old, perfect condition – £150. Rod ☎ 01222 578530

■ Quadra 840AV 16/500 CPU £2,400; StyleWriter I – £110 ono; *A Train, King's Quest VI*, software all boxed – £20 ea. Alan ☎ 01923 270235 (work hrs)

■ Apple Power CD-ROM drive, boxed, as new, inc cables, CDs – £95. Stuart ☎ 0131 458 2175 (day) 01506 842782 (eve & wkend)

■ PowerBook 180 12/120, PSI internal modem, complete with accessories – £1000 or swap for PowerPC 6100/CD or Performa 630/CD System. Ipswich ☎ 01473 270296 (after 6pm)

■ HP DeskWriter inkjet printer, good quality output, unwanted present, 18 mths old, never used, boxed & as new – £160 ono. ☎ 01276 855548

■ Mac LCII 6/40, Apple 12-inch moveable colour monitor, all original packing, software & manuals, 18 mths old, mint condition – £500 ono. ☎ 01276 855548

■ StyleWriter I – £100, new condition, original packaging, manual, disks etc, still on first ink cartridge, plus spare. ☎ 01283 512154

SOFTWARE FOR SALE

■ *HomePublisher 2.0* – £35; *SimCity 2000* – £15. Robin ☎ 01858 555373 (eve)

■ *CD-ROM Toolkit, Iron Helix* CD-ROM – £25ea + p&p unregistered. Julian ☎ 0115 951 5151 ext.8194

■ *Microsoft Office 3*, inc *WordPerfect 5.1, Excel 4, Powerpoint* and *Mail*, all manuals – £100. ☎ 01285 861480

■ *Aldus Digital Darkroom*, unopened, shrink-wrapped – £65. Michael ☎ 01296 23724 (eve)

■ Programming software, all with disks, manuals & certificate of ownership, *Symantec C++ 6.0* – £140; *Think C 5.0* – £80; *Think Reference 2.0* – £30. David ☎ 0117 946 7003

■ *RAM Doubler*, unopened – £40; *Theme Park*, unopened – £20; *Underware* – £20; *ClarisWorks* – £30; *F18 Flight Simulator*, unopened – £20. Ted ☎ 01223 565228 (eve)

■ *Aldus Persuasion 2.1* and *Microsoft Word 5.1*, boxed with original disks and manuals, can be upgraded, reasonable offers accepted. ☎ 0181 471 2196

■ *Aldus PageMaker 4.2, Persuasion 2.1 & Word 5.1* boxed with original disks & manuals, can be upgraded, reasonable offers accepted. ☎ 0181 548 1210

■ *Alias Sketch!* 3D modelling & photo-realistic rendering, brand new & unregistered, list price £762, accept £500 ono. Tim ☎ 01225 447083

■ *PageMaker 5*, boxed, all original – £225; *Write Now 3* – £20; *System 7.1* disks – £18; *Ofoto* scanning software disk – £10; Apple microphone – £8. ☎ 01684 811142

■ Original Mac software: *MS Works 3.0* – £40; *MS Mail 3.0* – £15; *PixelPaint 2.0* – £15; *Flight Simulator* – £20; *Aldus SuperPaint 3.0* – £30 & more. ☎ 01484 510753

■ *Photoshop 3.0*, unused, CD, manuals, boxed, as new – £250. ☎ 01376 550973

■ *Return to Zork* – £20; *Indiana Jones Fate of Atlantis* – £15. *Lemmings* – £10; *PGA Tour Golf* – £10; *Iron Helix* – £20, all originals. Nick ☎ 01993 812946

■ *"M"* algorithmic music composition software (MACFORMAT Nov '94), unregistered, half price – £40; *Connectix PowerBook* utilities – £20; WANTED – Duo bits & pieces. ☎ 0181 692 8192

■ *ClarisWorks 2.0*, unused & unregistered, with manuals – £40; *Space Shuttle* CD-ROM – £15; *HomePublisher* – £19. ☎ 0181 348 4002

■ *SimCity 2000 & Civilisation*, boxed, original disks – £20ea. Lubna ☎ 0171 370 0672 (after 7pm)

■ *Star Trek 25th Anniversary; Astrochase 3D; Castles Siege & Conquest* – £18ea or swap for Marathon. Andy ☎ 0181 590 3422 (day) 01708 384636 (eve)

■ Games: *7th Guest; SimCity 2000; Monkey Island II* – all £20; *Where in the World is Carmen Sandiego, Wolfenstein* – £10; *Gravis Gamepad* – £25. ☎ 01790 753000

■ *Marathon* – £40 or swap for *Sensory Overload* etc, also for swap or sale, *MYST, Dark Seed, Iron Helix, Prince Persia II, Lemmings*, bundle CD. ☎ 01603 451839

■ *Newton Connection Kit 2.0*, software only, no Mac to Newton lead – £20. ☎ 0116 250 2645 (after 6pm)

■ *Darkseed*, boxed with manuals for £19, less than half price; *Oh No More Lemmings* – £6. ☎ 0192 384 4105

■ *Theme Park* – £20; *Iron Helix* CD-ROM – £25; *Civilization* – £15; *Castles* – £15; *Harpoon* – £20; *SimCity* –£20; others also, original with boxes. ☎ 0171 709 0815

■ *Canvas 3.0*, boxed with manual – £35; *More Key Fonts*, boxed – £22; also Bitstream & Monotype originals. Colin ☎ 01325 355661

■ *HomePublisher 2.0*, boxed, as new – £35. Robin ☎ 01858 555373

■ *MYST* CD-ROM – £20. Sabre ☎ 0181 979b 0262 (eve) 0171 315 6228 (day)

■ *PageMaker 5.0* original disks & manuals, as new – £185. ☎ 01684 568243

■ System 7.5 – £45, *ATM* – £29; *PlainTalk 1.3* – £29; *Spoton* – £19; *Menuette* (registered) £8; all originals, boxed with manuals, recorded delivery. Damon ☎ 01252 721783

■ *ClarisWorks 2.1*, accelerated for PowerMac, brand new, unused, boxed & unopened, first £75 secures. ☎ 01993 775179 (after 6pm or wkends)

■ *Theme Park* disks, still in box, unwanted Xmas gift – £25. ☎ 01424 219832

■ *Stacker*, boxed, unregistered, bundled with Mac but not needed – £25. ☎ 01823 337870

■ *Hellcats*, unused, unregistered – £15. Ray ☎ 01703 243809

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■ External hard disk, 1.44Mb, floppy disc drive for Mac SE. Donald ☎ 01620 830223

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■ *QuarkXPress 3.2, 3.3* – £100 given. ☎ 0161 434 1548

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■ Mac books, new, *Symantec CTT for the Macintosh*, inc disk – £20; *Welcome to the CD-ROM* – £12; *Maximizing Your Mac The Guru's Guide* – £12. Richard ☎ 01480 300409

Wolfenstein: a last word

In MACFORMAT 20, a reader complained that *Wolfenstein* was offensive because it was 'grotesquely violent' and used 'the imagery of Nazi torturers'. Here are four final reader perspectives on the argument.

I'm responding to Mrs Beauman's letter in MACFORMAT 20. Like her son I'm probably one of the younger people who read MACFORMAT. A few years ago I played *Wolfenstein* on my friend's PC; I liked it because of the playability, which is why it got 84% in your review. Mrs Beauman says it glorifies Nazis but I don't see how shooting them glorifies them. If she thinks *Wolfenstein* is very violent, why hasn't she complained about *Marathon* or *Sensory Overload*? After all, it's no different making green goo come out of aliens, is it?

Guy Hodges
Ashtead, Surrey

There are many games on the Mac and other machines that involve shooting people. Is this one grotesquely violent?

Call us irresponsible

I think that David Lockwood (Letters, MACFORMAT 24) was a bit over the top in saying your editorial tone is 'unremitting flippancy' – if you want hushed, serious tones, pick a different magazine: there should be an element of fun to using Macs!

As for Mrs Beauman... words almost fail me! Censorship? Is that what she really wants? I find that deeply worrying as it smacks of tabloid press and intolerance. Perhaps she is a *Sun* reader — they seem to like piling criticism on anything they view as 'immoral'. I expect that your article 'Seedy ROMs?' [in MACFORMAT 24, on 'adult' CD-ROM titles such as *Who Built America?* and *The Joy of Sex*] will fire some people up, calling for censorship.

The parallels you draw between film, video and CD-ROM releases are worth further investigation. Why do we feel that an 18 certificate film should be cut before releasing it as an 18 certificate video? Why are we so concerned about 'adult' material on CD-ROM? The only implication I can see is that we're not responsible enough to decide what is acceptable and must have it imposed by outside authorities. You choose to go to the cinema to see films like *Reservoir Dogs* (an excellent movie) – surely you should be allowed the choice to view the same material in the privacy of your own home?

Apparently not. Once the censorship brigade catch on to CD-ROMs like *The Joy of Sex* (a widely available book and video – what's the fuss?) they're going to have a field day with *Virtual Valerie* and its ilk!

At least Voyager stood by its principles over *Who Built America?*. Perhaps there is hope against censorship.

Sean A Corfield
Via CIX

Simply about killing

I have been a subscriber to MACFORMAT almost from the beginning because of its high quality and often very witty comments. But when I read issue 21 I got very angry and annoyed about Andy Hutchinson's review of *Wolfenstein*. There must be something he did not quite understand; otherwise I cannot explain why anyone with a functioning brain should declare this game to be *great*! At least not in your magazine! It is simply a game about killing others – even with a flame-thrower! It is absolutely unacceptable to publish such a review, even if, as Andy says, it is 'first a computer game, not a thesis on fascism' and 'you are on the side of the allies'. That is not the point!

Your mission in *Wolfenstein* is to escape from a well-guarded castle. The guards just happen to be Nazis...

And what is more, he 'cannot imagine it selling particularly well in Germany'. I do not believe it! Does he think Germans would not buy a game because it is about killing Nazis? Or because it has something to do with World War II? I am not one of those who tell you that such violent computer games might make children repeat in real life what they have been playing on their computers (but then again, who knows?). But please refrain from putting such stupid games on your cover disk/CD again and ask Mr Hutchinson to think more carefully about what he wants to say *before* it is published.

Ralf Laumann
Cologne

Tasteless, but just a game

Personally, I never took Nicola Beauman's argument to read that she thought *Wolfenstein 3D* glamorises or glorifies Nazism, any more than I would argue that, say, *Rebel Assault* glamorises The Empire, that ducks in a fairground suddenly take on a sinister cultural edge or that every time I play *Pathways Into Darkness* I get an urge to be one of those creepy green headless things. No, where Nicola is right – and I feel she has a strong point – is that there are some subjects that are above trivialisation. I don't feel that making Nazis the object of a shoot-'em-up necessarily makes an ideological point: good or bad. They just become villains, that's all.

I don't think anybody sane would disagree that Nazism left scar tissue across Europe's psyche – a scar that is still tender a generation or two later. I also think that there are plenty of less emotionally loaded subjects for us to derive our entertainment from.

If you want to use a Mac to demonstrate the evil of Nazism, then buy *The Complete Maus*. Blasting your way through *Wolfenstein 3D* may well be cathartic in a trivial sort of way, but it proves nothing.

Don't get me wrong: technically, it's a particularly good game. It's well coded and tightly paced. I just don't think we do ourselves any favours claiming historical merit for what is after all only a game. An embarrassingly insensitive, if not downright tasteless, one perhaps, but ultimately it's only a game.

Alan Bates
Via CIX

Some bad guys wear brown, some white. There are zombies in green. Historical accuracy isn't the point...

OVER TO YOU...

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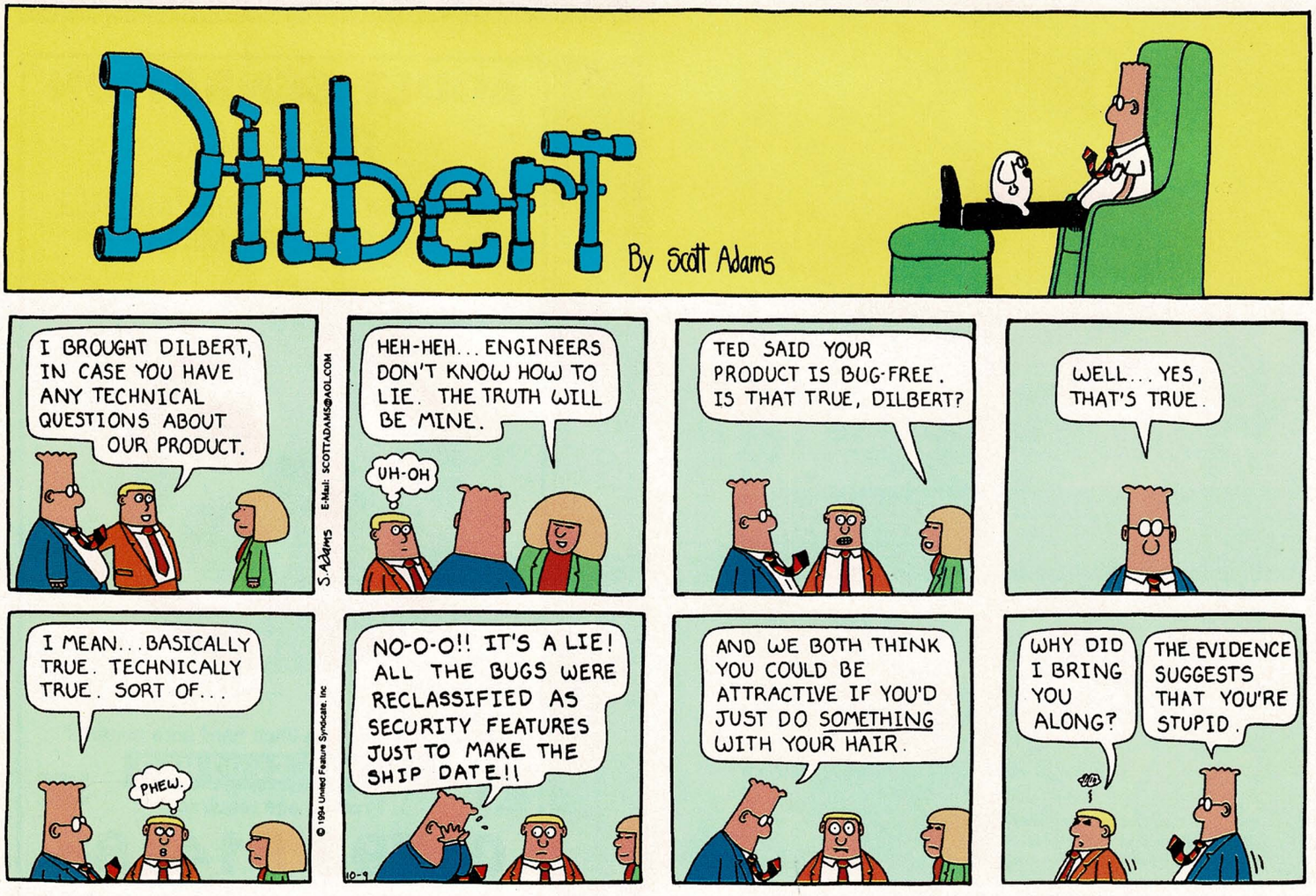
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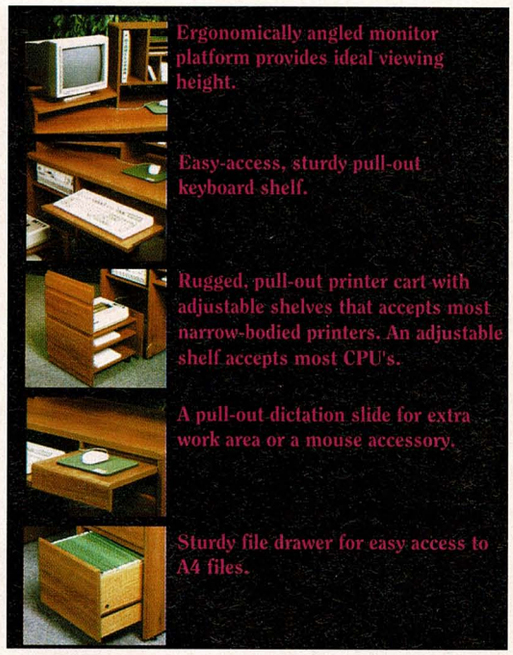

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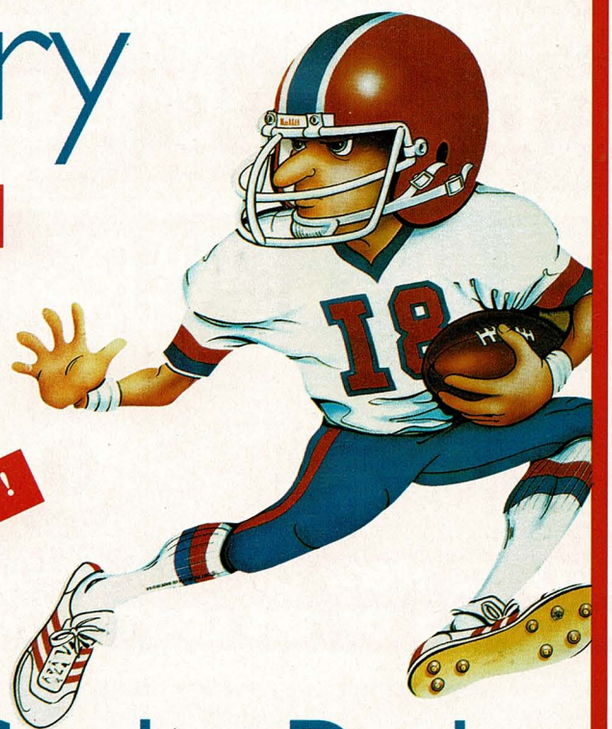

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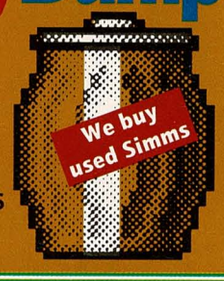

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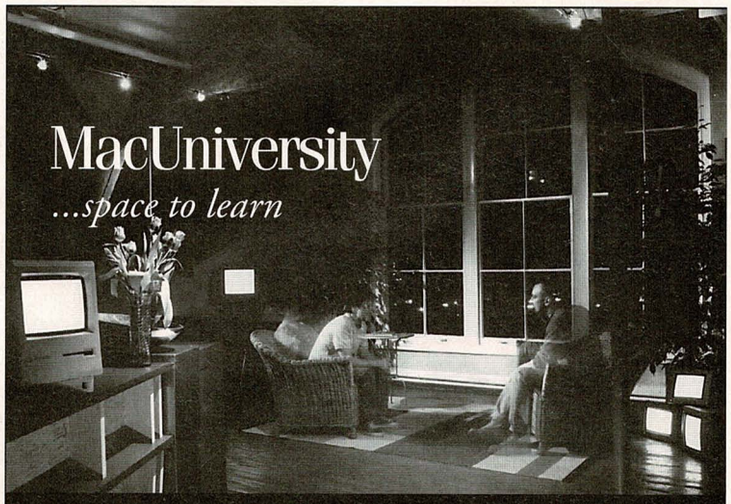

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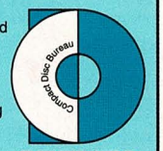

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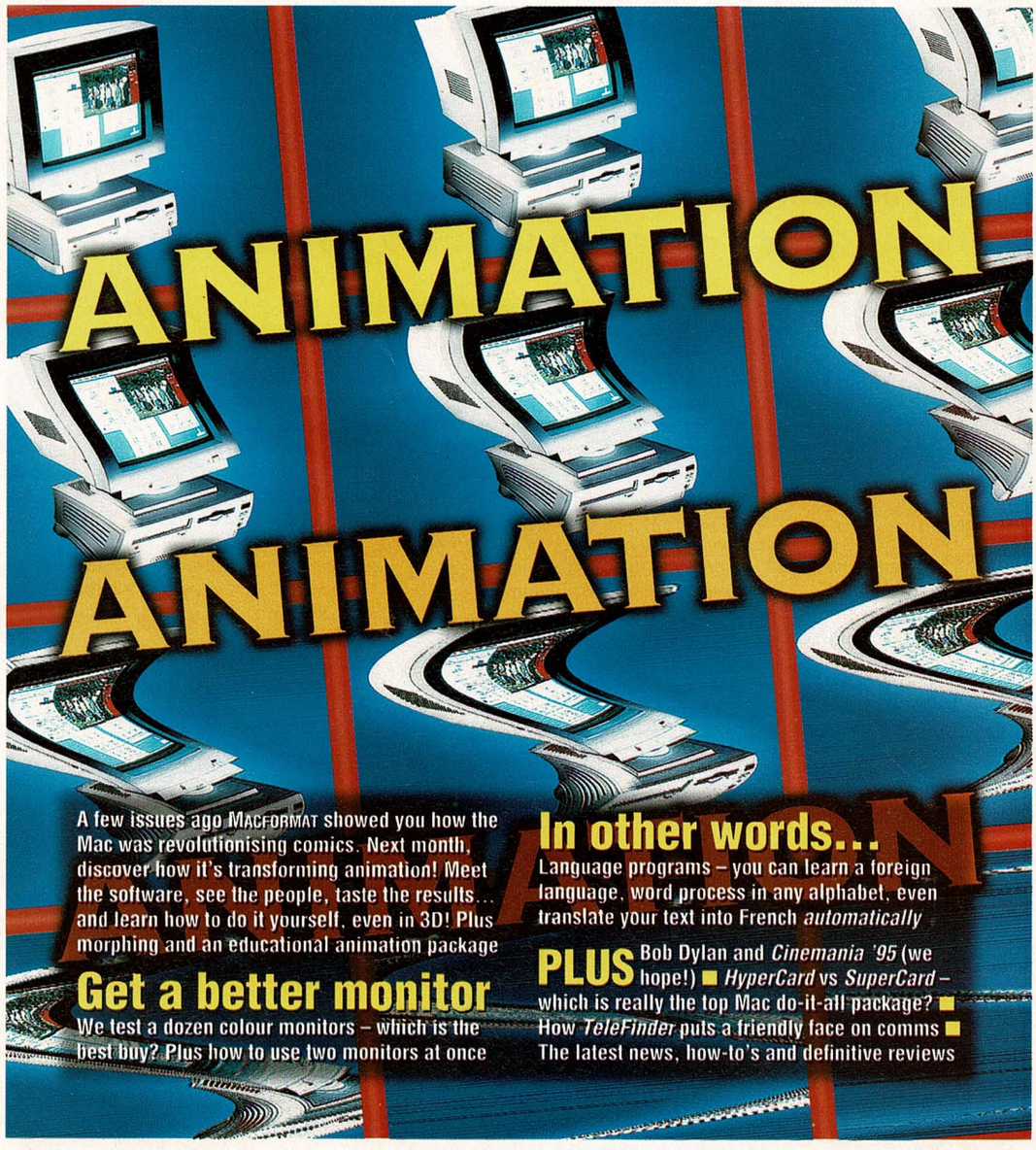
One word of truth from the Tiny Zone

Hello and welcome again to the Tiny Zone, the section of MACFORMAT that tackles the big issues in its own small way. Last month, we notice, Britain's best-selling magazine, *Reader's Digest*, had a 'special advertising feature about home computers'. One bit caught our eye: 'There are basically two industry standards: the Apple Macintosh (Mac) and the IBM-compatible PC (PC). Think of it as using a gas cooker or an electric cooker...' Now, Tiny Zone has enormous respect for the *Digest* – it's just amazing how they manage to fit girt long novels into those Compressed Stories™ like they do – and in its own home-spun way it's on the money here. 'Basically' – ie, in effect – there *are* just two standards. Others like the Commodore Amiga and Atari ST all had something going for them, but they couldn't keep up the pace in the long run (though the Archie, to give it its due, is still plugging away). However, the *Digest* adds 'The Apple Mac is very slightly easier to use.' As you know, Tiny Zone is above PC-bashing, but this was obviously written by someone who has never actually *used* PCs. Evidence? Recently there was a meeting of the editors of the eight or nine Future Publishing magazines with covermounted CD-ROMs. Someone said readers were being unrealistic to expect CDs to work as soon as you put them in the drive. They wouldn't expect a *game* to run just like that, they said, and all the other PC mag eds agreed. Any Mac owner knows better. So if anyone ever tells you Macs are *very slightly* easier to use than PCs, smile and say 'config.sys' or 'autoexec.bat'. Standards? Hey, the Mac is still *setting* those.

Next month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ANIMATION
A few issues ago MACFORMAT showed you how the Mac was revolutionising comics. Next month, discover how it's transforming animation! Meet the software, see the people, taste the results... and learn how to do it yourself, even in 3D! Plus morphing and an educational animation package
In other words...
Language programs – you can learn a foreign language, word process in any alphabet, even translate your text into French *automatically*
Get a better monitor
We test a dozen colour monitors – which is the best buy? Plus how to use two monitors at once
PLUS Bob Dylan and *Cinemania '95* (we hope!) ■ *HyperCard* vs *SuperCard* – which is really the top Mac do-it-all package? ■ How *TeleFinder* puts a friendly face on comms ■ The latest news, how-to's and definitive reviews

ARE YOU A WINNER?

In MACFORMAT 21 we gave you the chance to win one of ten copies of *MediaFactory*, the desktop video editing program from NUTS Technologies which makes editing and adding filters, transitions and text effects as easy as clicking and dragging. The ten lucky winners (kindly drawn from the cardboard box by our Senior Executive Assistant Post Room Operative, Phil Rees, who wanted to see his name in print) are: Mr G Pennington ofBolton, Lancs.; Elaine Bowers of London SE25; Nick Wray of London N3; Stuart Coll of Glasgow; P Mackey of Llay, Clwyd; Mr R McIver of Shermanbury, West Sussex; Ray Parkes of Skelmersdale, Lancs.; C B Parkin from Worcester; Per Steinar Hoftun, Stavanger, Norway; and someone who signs himself simply 'TC', of Peterborough. Congratulations all!

And talking about winners, if you've won a competition announced in a previous issue of MACFORMAT but not yet received your prize, or written a letter we've published but you haven't yet received your binder, please drop us a line by e-mail or snail-mail (*not* telephone) and make sure you include a current address. We particularly want to hear from you if you are John Walmsley, Tracey Paddison, Paul Hunt, Lawrence Staple, Glen Warner or Matthew Carey. It's a bit hard to send prizes via e-mail.

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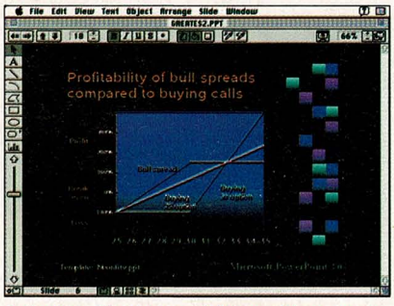
Take the latest version of the world's most popular word processor. Add the only dedicated Mac spreadsheet program, plus a leading presentation graphics package, and even a mail manager. That's what you get in the *Microsoft Office 4.2* bundle: *Word 6.0*, *Excel 5.0*, *PowerPoint 4.0* and a workstation licence for *Microsoft Mail* 3.2. These are not the cut-down, bare-bones applications you get in some 'all-in-one' integrated packages; they're the complete, industry-standard, full-featured programs.

At the same time, *Microsoft Office* offers an unprecedented level of integration and ease of use. All the applications share a common design, so you'll instantly find your way around menus, tools and dialogue boxes. You can share data between applications with 'OfficeLinks', based on Microsoft's OLE (Object Linking and Embedding) technology, so you can, for example, open a spreadsheet with *Excel* within your *Word* document. MOM, the Microsoft Office Manager, offers tools that make it easy to use the applications together, and it comes with a customisable toolbar to make switching between them easier. The programs even share many components such as Find File, the spelling-checker and custom user dictionary, Microsoft Graph and ClipArt Gallery, which means they're not just easier to use but they take up less of your precious disk space too!

What's more, all the *Microsoft Office* applications feature Microsoft's new IntelliSense technology, which helps simplify the 100 most common tasks you'll tackle with *Microsoft Office*. In *Word 6.0*, for example, AutoCorrect automatically corrects common typing and spelling errors, and AutoFormat automatically formats an entire *Word* document in one step. In *Excel 5.0*, there's an AutoFilter feature, a Function Wizard to help you enter functions correctly, and even a Tip Wizard help system. You can even script your own automated routines using AppleScript or the fully-integrated Visual Basic for Applications.

Fantastic power and fantastic integration – that's *Microsoft Office 4.2*. The whole fabulous bundle sells for £423, but we have no less than ten copies to be won, courtesy of Microsoft. All you have to do is answer the three simple questions below, and send us your answers on a postcard or the back of a stuck-down envelope. The closing date for receipt of entries is Friday 9 June 1995.



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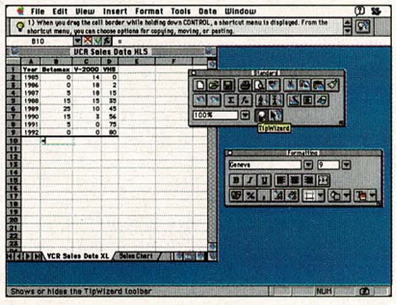

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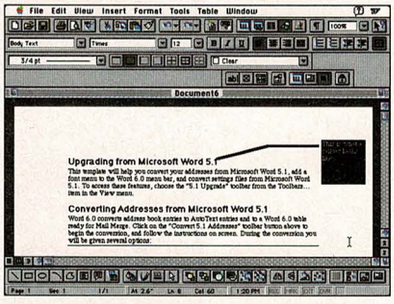

Microsoft's *Word 6.0* is the world's most popular word processor. Get lucky and it could be yours.

The Rules!

Employees of Microsoft, Future Publishing Ltd or associated companies, and their families, are not eligible to enter. Multiple entries are not allowed, unless they are on the back of a photo of an integrated office. The editor's decision is final, there is no cash alternative and no correspondence will be entered into. Please state if you don't want your name added to a mailing list.

The Questions

1. Which of the following is *not* included in the *Microsoft Office for the Machintosh 4.2* bundle?
(a) *Word 6.0*
(b) *Excel 5.0*
(c) Fireball XL5

2. *Microsoft Office 4.2* offers unprecedented integration of its separate applications. How do they do that?
(a) Application switching using the Applications menu at the top right of the screen
(b) Common design, shared components, OfficeLinks and MOM
(c) An awful lot of cut-and-paste

3. You can activate an *Excel 5.0* spreadsheet contained in the middle of a *Word 6.0* word processing document using Microsoft's OLE. What does OLE stand for?
(a) Object Linking and Embedding
(b) Ordinary Logic and Elegance
(c) It doesn't stand for anything, it's what you say when it works

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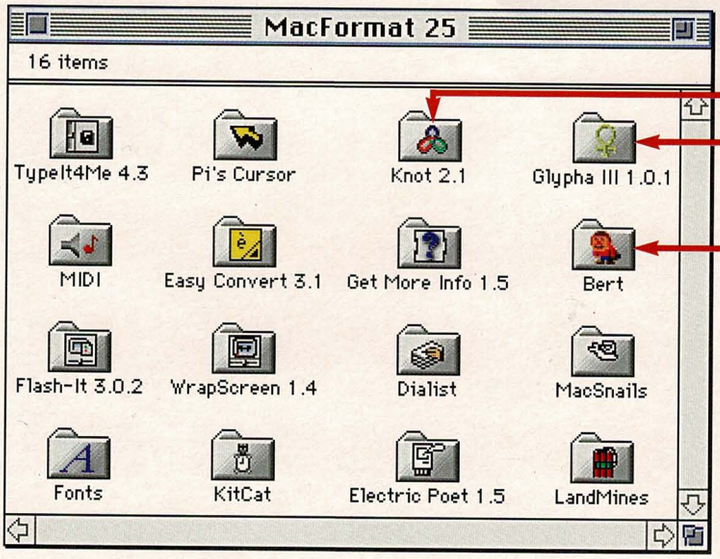
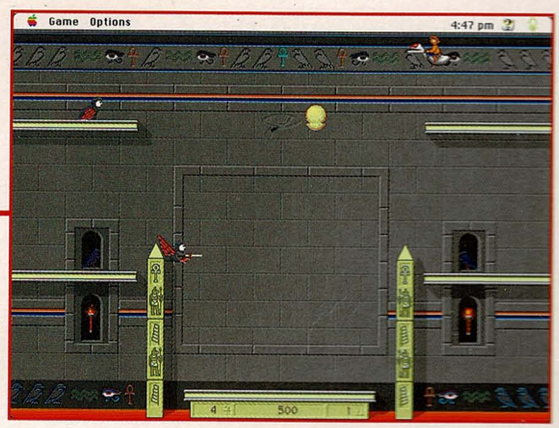
ON THE DISKS THIS MONTH...

It's another double disk edition this month (UK readers only), which means over 5Mb of software to keep you engrossed. There's software to play MIDI music on your Mac with no extra kit needed, plus *four* compulsive games, and a whole heap of great utilities. Your Mac just might have a bigger smile than usual when you next start up!



KNOT

Design fantastic, beautiful images on your Mac with this easy to use graphics program. With a wealth of options to stretch your artistic talent, the program produces its wonderful creations in just minutes! Requires: Colour monitor, graphics application, 1.5Mb free RAM.

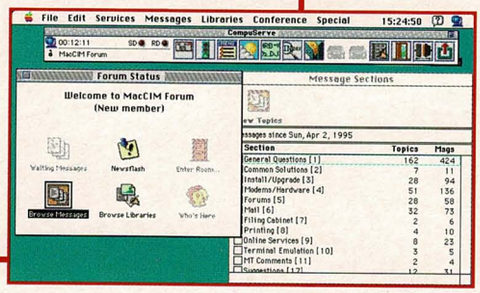


GLYPHA 3

It's one of the most bizarre game ideas ever, as you do battle against winged enemies, armed only with a lance and flying ostrich! The graphics are smooth, the sound is gorgeous, and the gameplay addictive. Requires: System 6.0.5 or better, 14-inch 256-colour monitor.

CompuServe

Your bonus second disk (**UK only**) contains all the software you need to log on to one of the best comms services around, CompuServe. You get free registration, plus one month's free access to all CompuServe facilities and news groups. (Sorry, UK readers only.) All you need is a modem!

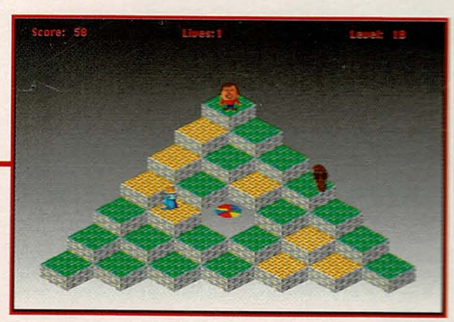


UTILITIES

Top of the utilities list this month is *TypeIt4Me*, a program that can double the speed of your typing in two minutes with no extra effort. Too good to be true? This is what Macs were made for!

We also have the latest version of *Flash-It*, one of the best screen grabbers around. There's full instructions inside the magazine in our Basics guide. *Electric Poet* will automatically generate poetry, while *Easy Convert* can swap upper and lower case.

There's another handy *HyperCard* stack from our expert Rod Lawton and four other indispensable utilities, plus two great fonts in TrueType format, so they'll work with any Mac and printer.



BERT

Based on the totally addictive classic *QBert* game, this will keep you glued to your screen with its simple but compulsive gameplay. The idea is to leap around the 3D playing area, avoiding the baddies, until you have visited every square and thus changed all the colours. Sound simple? It isn't! Requires: Colour monitor.